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**Weyerhaeuser Timber Company**



Volume 60

No. 5

May, 1954

# American FORESTS

James B. Craig, Editor

Dorothy B. Thompson, Editorial Assistant

Keith R. McCarthy, Assistant Editor

James J. Fisher, Art Director

PUBLISHED BY THE AMERICAN FORESTRY ASSOCIATION

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**COVER •** From nurseries such as this one at Munson, Florida, International Paper Company last year distributed 30 million pine tree seedlings. Nearly half of these were given away free to small landowners to encourage tree farming and stimulate forest conservation, while the remainder were planted on Company lands to help nature replace recent cutting operations.

## THE AFA

The American Forestry Association, publishers of AMERICAN FORESTS, is a national organization—Independent and non-political in character—for the advancement of intelligent management and use of forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is to create an enlightened public appreciation of these resources and their part in the social and economic life of the nation. Created in 1875, it is the oldest national forest conservation organization in America.

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# Letters

## School for Farm Foresters

### EDITOR:

On page 59 of the March 1954 issue of your publication, AMERICAN FORESTS, there is an article, "A Farmer's Forester," by John F. Preston. This article concerns a correspondence course in farm forestry conducted by the U. S. Department of Agriculture Graduate School.

I am interested in this course and I would thank you to send me information about it, or, where I may obtain information about it.

D. Vielmetti  
L'Anse, Michigan

**(Editor's Note—**The farm forestry correspondence course was started by the Graduate School, Dept. of Agriculture in late 1952. The school was established in 1921 to improve the federal service by providing needed educational opportunities for federal employees. The school now offers resident instruction in Washington and a small correspondence program. Classes are open to all qualified employees of the federal government and to other qualified persons as facilities permit. The f.f. course is open to any qualified person, but primarily to those engaged in some type of forest work. For further information and for details, write to the Registrar, Graduate School, U.S. Dept. of Agriculture, Washington 25, D.C.)

## Exploration

### EDITOR:

Having just taken a course in plant physiology at Colorado A & M, I was especially interested by your recent article, "Mountains of the Moon," by Creighton Peet in March. Like all pre-forestry students, I am not specializing in any particular scientific field that would equip me to join an expedition. I would therefore appreciate any information concerning how to prepare myself in college for future expeditions, or perhaps you could refer me to those who possess facts about U.S.-sponsored explorations.

John Bragdon  
Fort Collins, Colorado

**(Editor's Note—**To date, there have not been too many forestry expeditions abroad of the type Reader Bragdon refers to. To equip himself for such work, Director-Forester Besley of the AFA suggests that he take some botany courses including ecology and taxonomy. Meanwhile, it might be worthwhile to write for more information on expeditions to Director Albert E. Parr, American Museum of Natural History, Central Park West at 79th Street, New York 24, N. Y.)

## The Condor

### EDITOR:

Your photograph of the California condor in the March issue of AMERICAN FORESTS fascinated me so much that I would like to have an enlargement of it framed to hang in my study. The article about this magnificent bird is delightful too, but

the photograph is comparable to Audubon's pictures. I hope such an enlargement is obtainable.

Norman C. Lindau  
Bedford, Massachusetts

(Editor's Note—Reader Lindau's request has been forwarded to Author Harry De Lasaux, who owns the condor picture referred to.)

### Shade Tree Laws

EDITOR:

We read with interest your article in the March AMERICAN FORESTS on "Shade Tree Laws."

We are particularly interested in your Chart for Shade Tree Appraisal on page 11. The text does not indicate how you arrived at the tree values indicated. Could you give us some information on this subject? Do the "Basic Values" mean they are your estimate of the values of the specific trees as indicated by diameter? Do you have values separated as between land and trees and do you know of specific instances where actual differential values were set on land vs. trees, other than the ones you mention for tree damage?

N. B. Livermore, Jr.  
The Pacific Lumber Company  
San Francisco 4, California

### Sequoia Seedlings

EDITOR:

I enjoyed the article in your February issue, "The Big Trees," by Creighton Peet. We have a place in northern Michigan of 200 acres of land which we have been reforesting principally with pine and spruce. Beside this we are trying to introduce a variety of new trees both native to Michigan and from other areas. For some time now, we have been wanting to get some seedlings of the Sequoias. If they are available, would appreciate your letting us know whom to contact for them.

R. H. Peterson  
Dearborn, Michigan

(Editor's Note—We suggest that Reader Peterson contact the Rare Plant Club, 208 McAllister Avenue, Kentfield, California. For additional information see this firm's advertisement on page 58 of the March issue of *American Forests*.)

EDITOR:

. . . Congratulations to you all on excellent and very attractive February issue. I particularly like, as a layman, your articles on individual species—as the feature on the Sequoias.

Walter Hard, Jr.  
Editor  
*Vermont Life*  
Montpelier, Vt.

### The Way West

EDITOR:

. . . I am glad to see The American Forestry Association reflecting the many shades of resources opinion as brought out at various regional and national meetings. I also feel the Association is on the right track in encouraging the public to visit national forests, parks and private operations as shown in your March issue. In best serving the public, associations should not be too arbitrary in taking sides on the

(Turn to page 60)

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The placid beauty of a lake in California's Yosemite National Park

**ALONG THE** *Oregon Trail*

The country that lies between the Mississippi River and the Pacific Coast boasts unmatched scenic splendor, most of which will be seen by AFA members aboard the "Conservation Caravan"

**W**HEN The American Forestry Association stages its annual meeting this fall—September 6 through 9 in Portland, Oregon—it will be offering something new in the way of annual meetings.

There are several new aspects to this year's meeting. One of the most important of these is the combination of the convention itself with a cross-country sightseeing tour (on a special train, the "Conservation Caravan") that will take in most of the scenic wonders west of the Mississippi River—Glacier National Park in Montana, the Columbia River country of Oregon and Washington, the California redwoods area, and the Grand Canyon region in the Southwest, to name a few. (For a detailed itinerary of the August 30 through September 17 trip on the "Conservation Caravan" see pages four and five of the April issue of *AMERICAN FORESTS*.)

Another new feature of the Portland meeting is the stress being placed on educational field trips. Three days of the four-day meeting will be devoted to excursions into the national forests, national parks, public and private timber holdings, and industrial development sites that surround Portland.

The reason for the emphasis this year on field trips is AFA's desire to stimulate among its rank and file members more active participation in Association affairs. To this end the field trips have been planned especially for the "average" member. The Association officers and headquarters staff feel that in the past many members have failed to attend annual meetings because they believed these things should be left to the "experts." Such thinking is not

altogether true. There is, of course, a certain amount of formal business to be conducted at any annual meeting, but that business should be of equal concern to the average member and the professional forester or timber owner. AFA is a citizens' organization, and the failure of any member to attend its meeting and help to formulate its policies is tantamount to forfeiting one of the most important privileges of membership.

The choice of the Pacific Northwest as the site for the September meeting is a third deviation from standard convention fare. This is the first time in AFA's 79-year history that it will have convened in this part of the nation. Portland was selected as headquarters for the meeting because the Northwest is perhaps the most dynamic—and at

the same time least generally understood—section of the United States. Meeting there will give AFA members an opportunity to see for themselves, on the ground, what makes this great area a leader in the wise use and conservation of natural resources.

AFA members will soon be receiving through the mails a brochure describing in detail the route of the "Conservation Caravan," its timetable, prices of the trip and other pertinent data as well as reservation cards for the train and for hotel accommodations in Portland. Since a meeting of this size takes considerable planning, prompt response to the reservations inquiries is requested. Any further information on either the meeting or the special train can be obtained by writing to Association headquarters.



The Grand Canyon area of the Southwest is among natural wonders of the world



Trick Falls, a roaring torrent in Montana's Glacier National Park

# Washington Lookout



By ALBERT G. HALL

FORESTRY APPROPRIATIONS, WITH FEW EXCEPTIONS ARE CONSIDERABLY GREATER that were anticipated earlier in the year. While none of the bills has passed the Senate, the action of the House indicates that Administration attempts to reduce forestry funds in an effort to throw more of the burden for cooperative activities upon the states have failed. At the same time, funds for administration of federal forest lands have been held to fiscal year 1954 levels or have exceeded them. Exceptions are the failure of the House to provide either the 1954 amount or the budget request for control of forest pests, and the halving of the funds for Tennessee Valley Authority's resource development program.

NATIONAL FOREST PROTECTION AND MANAGEMENT funds for 1955 are a bit less than in 1954, but here the chief reductions have been the result of consolidation of national forests and range districts, with the elimination of overhead administrative costs, and reductions for maintenance of facilities and land utilization projects. These have been overcome, in part, by increased funds for administration of national forest timber sales. While "fighting forest fires" shows a decrease from the actual expenditure in 1954, the \$6,000,000 is a token appropriation to carry the protection activity. Any increased costs as the result of actual fires is always covered later by a supplemental appropriation as was the case in 1954.

WHITE PINE BLISTER RUST CONTROL was scheduled for more reduction than is shown. Of the total, \$360,000 is for use on lands of the Department of the Interior, which amount is \$100,000 less than in 1954. In view of the ample allotments for other items, it appears that the House in its rush to complete action on the bill overlooked the importance of coupling increased funds for insect and disease control with the increases granted for timber access roads into old growth forests.

FOREST LAND ACQUISITION BY THE FOREST SERVICE IS RESTORED by the House action. Principal purpose of this restoration is to permit rounding out boundaries of existing national forests and purchase of interior holdings.

THE ACTION ON FOREST RESEARCH—a general increase over 1954—is in line with the Administration's desire to step up research and education. Additional funds are provided for forest genetics investigations and for a small study of the marketing of farm forestry products.

STATE AND PRIVATE FORESTRY COOPERATION, an area in which the Administration attempted to shift a greater portion of the burden from the federal government to the states, was again given strong federal support. A reduction of \$75,000 in co-operative fire-control funds was finally permitted, but all money was restored for the forest tree nursery stock distribution program and for on-the-ground assistance to private landowners and processors.

BUREAU OF LAND MANAGEMENT FUNDS FOR LANDS AND RESOURCES MANAGEMENT and disposal remain the same as in 1954. However, the funds have been re-shuffled to provide for minor increases in certain forestry items.

TENNESSEE VALLEY AUTHORITY'S RESOURCE DEVELOPMENT PROGRAM, as contrasted to a somewhat similar program in the federal-state-cooperative program of the Forest Service, was cut in half by the House. In the disposition of this program, it appears that TWA rather than the program was the target.

# THE FORESTRY APPROPRIATIONS PICTURE

Fiscal Year Ending June 30, 1954

U. S. DEPARTMENT OF AGRICULTURE	1954 Funds	1955 Budget	H.R. 8779 as passed by House
<b>Forest Service</b>			
National Forest Protection & Management			
Resource protection & Use	\$ 29,288,300	\$ 28,280,000	\$ 29,145,700
Resource development	1,385,000	655,000	787,000
Additional flood prevention	288,400	...	200,000
Fighting Forest Fires	10,500,000 <sup>a</sup>	6,000,000	6,000,000
Control of Forest Pests			
White pine blister rust	2,986,354	2,430,000	2,650,000 <sup>b</sup>
Forest pest control act	2,300,000	2,585,000	2,150,000
Forest Research			
Forest and range	2,898,794	3,094,630	2,998,794
Forest protection	1,042,704	1,242,704	1,242,704
Forest Products	1,231,318	1,231,318	1,231,318
Forest resources	939,848	959,848	959,848
Forest Roads and Trails	14,498,000	16,000,000	16,000,000
Timber salvage (Ida. & Mont.)	5,000,000	...	...
Acquisition			
Weeks Act	75,000	...	75,000
Special acts	...	...	10,000
State & Private Cooperation			
Fire control	9,449,500	8,968,300	9,374,500
Tree planting	447,061	...	447,061
Forest mgt. & processing	632,429	...	632,429
General forestry assistance	154,700	154,700	154,700
Transfers to Extension	109,018	See Extension	
Cooperative Range Improvement	531,000	281,000	281,000
Total Annual & Definite Approp.	\$ 83,757,426	\$ 71,882,500	\$ 74,340,054
Indefinite Appropriations	29,341,352	29,485,587	29,485,587
<b>TOTAL FOREST SERVICE</b>	<b>\$113,098,778</b>	<b>\$101,368,087</b>	<b>\$103,825,641</b>
<b>Extension Service (Forestry only)</b>			
Forestry Guidance—Federal	\$ 21,018	\$ 21,018	\$ 21,018
To States, under Clarke-McNary Act	88,000	88,000	88,000
	\$ 109,018	\$ 109,018	\$ 109,018
<b>Soil Conservation Service</b>			
Watershed Protection	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000
Flood Prevention	6,982,000	5,739,000	6,982,000
<b>U. S. DEPARTMENT OF THE INTERIOR</b>			
Bureau of Land Management	1954 Funds	1955 Budget	H.R. 8680 as passed by House
Management of Lands & Resources			
Forestry	\$ 2,507,500	\$ 2,623,540	\$ 2,623,540
Cadastral Surveys	1,063,868	1,687,900	1,687,900
Soil & moisture conservation	1,725,000	1,718,472	1,718,472
Squaw Butte Expt. Sta.	38,000	38,000	38,000
Fire suppression	210,000	210,000	210,000
General administration	1,210,000	1,209,500	1,209,500
Other (land use, disposal, weed control, grazing, etc.)	4,728,632	4,137,588	3,995,588
Total Lands & Resources	\$ 11,483,000	\$ 11,625,000	\$ 11,483,000
Access Roads (O & C Lands)	2,000,000	3,000,000	2,000,000
Range Improvements	374,654	400,000	400,000
<b>TOTAL BUREAU OF LAND MANAGEMENT</b>	<b>\$ 13,857,654</b>	<b>\$ 15,025,000</b>	<b>\$ 13,883,000</b>
<b>Bureau of Indian Affairs (forestry &amp; related items only)</b>			
Forest and Range	\$ 2,178,584	\$ 2,085,000	\$ 2,085,000
Fire Suppression	140,000	140,000	140,000
Maintenance, Roads & Trails	2,020,000	2,270,000	2,270,000
Construction, Roads & Trails	5,293,725	2,897,000	2,897,000
<b>National Park Service (forestry &amp; related items only)</b>			
Forestry and Fire Control	653,400	639,000	639,000
Roads	4,238,000	4,350,000	4,350,000
<b>TENNESSEE VALLEY AUTHORITY</b>			
Resource Development Only	1954 Funds	1955 Budget	H.R. 8583 as passed by House
	\$ 1,262,000	\$ 1,280,000	\$ 600,000 <sup>c</sup>

<sup>a</sup> Includes \$4,500,000 in Third Supplemental Appropriation.

<sup>b</sup> Includes \$360,000 for the Department of the Interior.

<sup>c</sup> From TVA operating funds.

# Where AFA Stands

**Executive Director-Forester Besley explains in letter to House Agriculture Committee Chairman Hope why Association now supports H. R. 8225, a bill to establish public use of national forests as a policy of Congress**

DEAR REPRESENTATIVE HOPE: Thank you for your kind words of April 5th in which you said you thought it would be very helpful to your House Committee on Agriculture for me to explain to you in a letter why The American Forestry Association now strongly supports H.R. 8225 although on March

12, 1953 (see Hearings before your Committee on S. 1173, H.R. 1972, H.R. 2106, and H.R. 3168 — Testimony of George A. Duthie, pages 127-128) it regretfully opposed H.R. 1972. You will recall that our Association was in complete sympathy with the objectives of H.R. 1972, but that it does not believe in the prin-

ciple of a continuing recurrent appropriation unrelated to the current needs and not subject to budgetary review, and unfortunately this principle was incorporated in H.R. 1972. We note that the three other outside witnesses appearing in opposition and a number of the members of Congress testifying likewise objected to this principle. We are especially pleased, therefore, that H.R. 8225 has avoided this objectionable feature and has inserted (in Section 3, page 2, lines 6 and 7) "and is authorized to be appropriated and made available until expended." We are also pleased with the title and Section 2 of H.R. 8225 which recognize public use of the national forests as a policy of Congress and with the addition of Section 4 which authorizes but does not require the Secretary of Agriculture to establish and collect fees and charges for use of any national forest improved recreational area where special services or facilities are provided, and for which the amount of collections will justify collection costs.

In our earlier testimony we pointed out that the standard of maintenance of recreational facilities on the national forests provided under recent appropriations has been wholly inadequate for the volume of public use to which these areas are subject and we urged the Congress to provide through regular appropriations adequate moneys for the proper improvement, care, and supervision of these areas. Nevertheless this was not done in either the 1954 appropriations or in the 1955 budget estimates, and unless H.R. 8225 is enacted it seems obvious that it will not be done in the future.

In reviewing the testimony presented before your committee on H.R. 1972 in your hearings of March 11 and 12, 1953, we are convinced that you have ample evidence of the basic need for H.R. 8225 and that we would not assist you in reiterating what others have so forcefully

(Turn to page 49)

## **PROVISIONS OF BAKER BILL (H. R. 8225)**

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the National Forest Public Use Act.

Sec. 2. It is the policy of Congress that public use of the national forests for purposes of recreation is a beneficial and proper use of such forests and that development and maintenance of areas and facilities for such public use, including safety, sanitation, and wildlife habitat, and the concurrent maintenance of other forest values, including sources of water, is a proper function of the federal government.

Sec. 3. Of the moneys received from the national forests during the fiscal year ending June 30, 1954, and each fiscal year thereafter, there shall be available at the end thereof an amount equivalent to ten per centum thereof, but not to exceed \$5,500,000 in any year, which is to be set apart in the Treasury as a special fund, and is authorized to be appropriated and made available until expended, under such regulations as the Secretary of Agriculture may prescribe, for the development, maintenance, and operation within the national forests of facilities and areas for recreational use; to improve and maintain wildlife habitat on the national forests; and to provide for adequate safety, sanitation, and health in connection with uses of the national forests: *Provided*, That no part of such moneys shall be used for the acquisition of land.

Sec. 4. The Secretary of Agriculture is authorized under such regulations as he may prescribe to establish and collect fees and charges for use of any national forest substantially improved recreational area where special services or facilities are provided, and for which the estimated amounts to be so collected in a fiscal year will justify the expenditures necessary to make the collections. Moneys collected pursuant to the provisions of this section shall be covered into the Treasury and shall constitute a special fund which is appropriated and made available to the Secretary of Agriculture until expended for the purposes set out in section 3: *Provided*, That the amount of funds made available under section 3 at the end of each fiscal year shall be reduced by the amount of the fees and charges deposited in such special fund during that fiscal year: *And provided further*, That an amount equivalent to the fees and charges collected for a substantially improved recreation area may be expended by the Secretary in such area for the purposes set out in section 3.

# EDITORIAL

## Don't Take Your National Forests for Granted

To thousands of American families, the recreational facilities provided by their national forests spell the difference between having a vacation and not having one. Millions more flock to the forests for briefer stays—to picnic, camp, hunt, hike, fish, ski, swim or just relax. Few people who visit the forests fail to come under their magic influence. The quietude of forests offers release from the cares and trials of everyday living. They provide rest for the weary and a tonic for the sick in spirit. Of priceless worth, these forests, at the same time, are also America's biggest recreational bargain. At very low cost, the public can make full use of 4700 improved camping and picnic grounds, 81,000 miles of fishing streams, 129,000 miles of trails, 78 wild and wilderness areas, 71 organization camps, 208 winter sports centers, countless lakes, and scenery of unparalleled splendor.

Actually, it was not until fairly recent years that the American public really discovered these national forests. Comparatively young men in the Forest Service can recall when there were relatively few visitors. Then the influx started. Seven million people came in 1930. In 1941, the total climbed to the 18 million mark. By last year, visits had topped 30 million. More are anticipated in 1954 as the spiral continues upward.

Naturally, the Forest Service is pleased by this mounting interest. Just the same, this floodtide of visitors is creating serious problems. Appropriations for upkeep and maintenance of recreational areas have failed to keep pace with the increasingly heavy use. If the comfort, health and safety of the visitors is to be provided for, the Forest Service *must* have additional funds for maintenance and upkeep.

In addition to the acute need for such mundane items as plumbing and sanitation, the wildlife pattern on the forests must be protected and expanded. True, the two-and-a-half million big game animals that now roam the forests sounds like a sizable quota. And the fishing in innumerable shady streams continues better than average. The point is that with more and more of the 32 million licensed sportsmen in the nation turning away from "No hunting" signs on posted private lands, the pressure on national forests wildlife is gradually growing. Upwards of seven million sportsmen hunted and fished in the forests last year. This means that the supply of fish and game is by no means inexhaustible. It means that the Service must devote more time to developing good wildlife habitat, to working cooperatively with more state fish and game programs, and to carrying on more direct projects—including creation of more marshy

areas, fencing of streams to improve vegetation, building of small dams where necessary, and the creation of small openings in dense stands of timber to improve food and cover conditions.

Obviously, these things cost money. As the House Appropriations Committee was informed last year, a backlog of 24 million dollars is needed at once just to put present recreational areas into safe and satisfactory sanitary conditions. After that, a minimum of \$3,200,000 should be provided annually to assure necessary maintenance and tidy housekeeping?

What has been done about it? The answer is very little. Despite their stake in the matter, millions of Americans have been inclined to take their national forests recreation too much for granted. Congress has shown scant interest in providing for these areas by direct appropriations. Introduction of earmarking measures to fill the gap—bills that call for continuing recurrent appropriations not subject to budgetary review—have proven objectionable to many Congressmen and members of the public alike, although most of these people are in full sympathy with the recreational and wildlife needs involved.

Is there a workable solution? The answer is yes. But the public is going to have to help. Key to the impasse may be a measure now stalled in the House Agriculture and Forestry Committee. This is Rep. Baker's Bill (H.R. 8225). It provides that 10 percent of national forest revenues up to a ceiling of five-and-a-half million dollars be made available for recreational development and wildlife habitat improvement. Not an earmarked measure, this authorization provides that the money be appropriated through regular channels. Furthermore—and perhaps most important of all—this bill would recognize, once and for all, the importance of recreation and wildlife development on national forests as a matter of Congressional policy.

Obviously, millions of outdoor-loving Americans, now in the midst of preparations for their next visit to a national forest, will favor this bill. But merely favoring it and then doing something about it are two entirely different things. If the bill is to be blasted out of committee and enacted into law the public will have to speak up. Right now, in the midst of such enjoyable pursuits as readying fishing tackle and camping paraphernalia for their national forests trip, millions of citizens could break the present impasse by searching out pen and paper and writing a one-line letter. Addressed to their Congressman, it need only read, "Give the Baker Bill (H.R. 8225) a break."

Not much to ask in return for the many happy hours spent on national forests outings, you must admit.

This beautiful living laboratory of trees, plants  
and shrubs is within two miles of the Capitol dome,  
yet it's one of Washington's least known attractions

# The National Arboretum

By E. JOHN LONG



Crytomeria Valley, one of the National Arboretum's showplaces

**Arboretum Director Dr. Henry T. Skinner inspects small holly tree**  
Washington Evening Star photo



YOU might well call the National Arboretum "Washington's Least Known Attraction." Ask the average resident of the National Capital where it is, and you get a blank stare. Look it up in the telephone directory, and you'll probably not find it. Drive the main avenues and boulevards of the District of Columbia and you won't see hair nor hide of its rolling meadows and woodlands.

Yet the National Arboretum's 400 acres lie within two miles of the Capitol dome, and it unquestionably possesses one of the most beautiful tracts of land in a city famous for park land and natural charm.

One reason why the National Arboretum is not well known, perhaps, is its extreme youth. Congress did not establish it until 1927. Its location, in the northeast section of the District of Columbia, overlooking the Anacostia River flats, is somewhat off sightseers' trails. And, being an unfinished newcomer among



Washington Evening Star Photo

Dr. Skinner (left) and a guest inspecting trees on the arboretum ground

the parked areas of the Capital, it has not yet been opened to the general public on a full-time basis.

Actually the National Arboretum cannot be considered a "park" at all, but rather a living laboratory of the trees, shrubs, and plants of the District of Columbia. It is "National" in the sense that its strategic location, almost midway between the northern and southern states, makes possible the cultivation and study of plants from a wide range of habitats, and also because it exchanges findings with other arboreta.

Until additional guard service can be provided by the government, and roads and trails further improved, the Arboretum will continue to be open only by appointment (by telephone or letter) from 8 a.m. to 4:30 p.m., Mondays through Fridays. During the azalea flowering season, from mid-April to mid-May, however, the grounds may be visited by the general public on Saturdays and Sundays, from 9 a.m. to 6 p.m.

A more beautiful and varied area, combining forested hilltops with ravines, meadows, lakes and streams, could hardly be imagined. While not a "park," most of the Arboretum certainly looks like one—on the order of the well-tended estates to be found around European hunting lodges. There is a minimum of greenhouses, nursery plots and other obviously work-a-day facilities. Experimental plantings are arranged in patterns, and simple and mixed plantings have been grouped for landscape effect, while others are used as ground and bank covers. Wild thickets and patches of forest primeval contrast with formal arrangements of trees, shrubs, and flowers along bricked terraces.

A network of roads, paved and gravel, and trails reaches to almost every corner of the fenced reservation, making it accessible to both motorists and hikers. When it is open to the public, the Arboretum is a favored spot also with bird lov-

ers, who have found here many of the land and water birds of the eastern seaboard. Most unusual of its bird residents is the bald eagle, symbol of our national freedom, whose eyrie in a tall oak overlooks the seat of government.

Just exactly *what* is an arboretum? Dr. Henry T. Skinner, director of the institution, defines it: "A place devoted to the cultivation and study of plants in general, or woody plants in particular."

"Botanic garden" is another term for the same thing, but *not* in Washington, which also has an official Botanic Garden facing the Mall. The latter is under the supervision of the Architect of the Capitol, whereas the National Arboretum is administered through the U.S. Department of Agriculture.

There is really nothing new about the idea of arboreta. Special places set aside for the cultivation of trees and plants have existed since the middle of the 16th Century. One of

the oldest and most famous was that at Touvois, France. More recent, and somewhat more familiar, is the great Kew Gardens in England. In the United States several private or institutional arboreta—notably Arnold, at Jamaica Plains, Mass., and Morton, near Chicago—further research and education in botanical horticulture.

But there was no consideration of a National Arboretum until 1899, when the Hon. James Wilson, Secretary of Agriculture, mentioned its desirability in his annual report. A group, which later became the National Commission of Fine Arts, in 1901 directed attention to the Mount Hamilton-Hickey Ridge area of the District of Columbia as a suitable site for an arboretum which, in the field of living plants, might be a counterpart of the Smithsonian.

These suggestions lay dormant until 1917, when John Watson, president of the American Association of Nurserymen, appointed a committee to study the matter. But it was not until 1924 that numerous horticultural groups, plus the full sponsorship of the Department of Agricul-

ture, under Dr. F. V. Coville, finally got the project off the ground, and attracted the attention of Congress.

Even so, the going was hard, in the face of President Coolidge's rigid economy program, until a certain determined lady got busy. This lady was Mrs. Frank B. Noyes, wife of the former publisher of the *Washington Star*, and chairman of the Capital Committee of the Garden Clubs of America.

She told President Coolidge flatly: "I will not take 'no' for an answer on the National Arboretum proposal," and she backed up her stand with featured articles in the *Star*. The articles, appearing at three-day intervals for a month and a half, sparked the efforts of the Garden Clubs of America, the American Association of Nurserymen, other horticulturists and individuals. Finally a bill was introduced, and was approved by the Congress March 4, 1927. It was one of the few measures to survive a closing day filibuster in the Senate, largely due to the untiring efforts of Senator Charles R. McNary, of Oregon, chairman of the Senate Committee on Agriculture

and Forestry. The Hon. Robert Luce, chairman of the committee on the Library, saw it safely through the House.

The measure carried an appropriation of \$300,000, with which some 250 acres of farm and woodland in the Mount Hamilton area were obtained in 1934. This plot has since been increased to a little over 400 acres, lying roughly between Bladensburg Road, the Washington-Baltimore expressway (under construction), the Anacostia River and M Street, Northeast.

Early progress was slow. The soil consists of typical acid clays and gravels of the coastal plain. Part of it was old, worn-out tobacco fields, badly in need of fertilization and replenishment. Under the guidance of Dr. Coville, and with such funds as could be spared by the Department of Agriculture, some fencing, clearing and roadwork was started.

Then the Arboretum got its first real break. In 1935 a CCC camp was established there, and until 1940 the boys did a splendid job building roads, bridges, lakes, and clearing away underbrush and dead wood, breeders of plant diseases. Some work also was done on background plantings and landscaping. With World War II came another setback. The Army moved into the central area, setting up barracks for antiaircraft troops, and later, WACs. The last evidences of these occupancies are only now being erased as the staff tries to produce creditable lawn on the subsoil of military excavations.

The real turning point upward came in 1946, when a grant of \$45,000, in excess of operating costs, permitted the planting of nursery accumulated stock. Direction of the project was in the hands of Mr. B. Y. Morrison, head of the Division of Plant Exploration and Introduction, to which the Arboretum had been assigned by the Secretary of Agriculture. In 1949 the Arboretum was given division status within the Bureau of Plant Industry, Soils and Agricultural Engineering, with Mr. Morrison as its first full-time director. Dr. Skinner has been director since 1952.

Accredited visitors enter the grounds today via a gate on M Street, NE, near the end of Maryland avenue. Here a small modern gatehouse temporarily serves as an office. Future plans call for an administration building and a main entrance near Bladensburg Road and R Street, NE.

The entrance road passes several

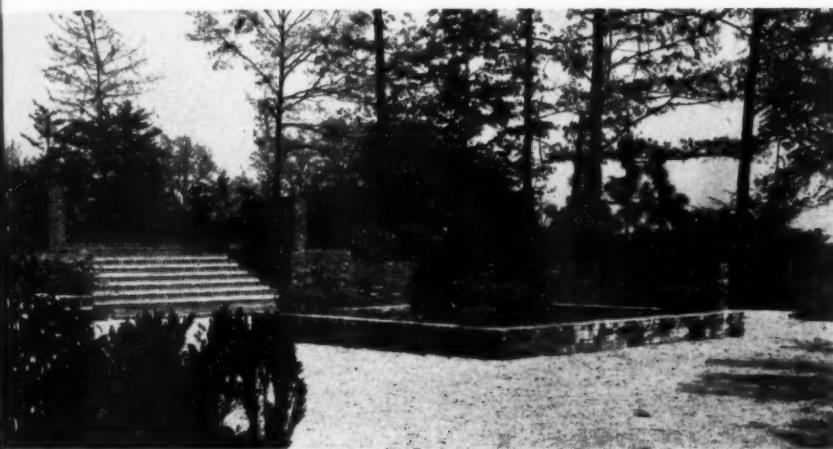
Dr. Francis de Vos, horticulturist (foreground) and William E. Faulkner, a propagator, tend a group of tiny azalea plants

Washington Evening Star photo





Lotus and White Lily Beech Spring Road, off the Anacostia River, (above) and entrance to Morrison Azalea Garden (below)



small greenhouses, used for propagation work, and then opens directly on to a large meadow-like expanse known as the "synoptic area." When completed it will represent a digest of all the plant groups of the Arboretum, arranged scenically but also by plant families, as an educational feature. It will be a boon to the person who has bought a landscaped home, and has wondered what plants and trees went with it.

With Dr. Skinner as my guide, I made a tour of the Arboretum grounds. Turning left at the synoptic area we followed the sweeping curve of the gravel road that ascends the side of Mount Hamilton. Westerners scoff at "mountain" for this 300-foot high knoll, but it commands a sweeping view of the National Capital, and the tall trees that crown its summit make it appear higher than it actually is. One of the chief scenic features of the reservation, Mount Hamilton would be an ideal site for a carillon, or "singing tower," like the one at Lake Wales, Florida.

As the car wound around the sharp ravines that cut into Mount

Hamilton's flanks, Dr. Skinner pointed out, among the hillside's trees and dogwood, a multitude of azalea bushes, not yet (March) in bloom. "These are the famous Glenn Dale hybrid azaleas, many of them now over head height, representing the work of Mr. Morrison. There are more than 70,000 of them—white, pink and red—in this area, and they provide one of the finest flower displays in the United States during late April and early May," he explained.

"At the base of the hillside there is a formal walled azalea garden, which contains labelled specimens of each of the 457 named clones, and in a deep valley on the left some 125 varieties of yellow, orange and salmon-colored Ghent and Mollie azaleas, a gift of the Netherlands, are beginning to feel at home in alien soil," Dr. Skinner added.

Below them he indicated young plants of nearly 100 varieties of English hybrid rhododendrons, presented by the Capital Committee of the Garden Clubs of America. Clinging to the rocky hillsides also were

mountain laurel and native rhododendron.

"In this section, too, the labelling program is getting under way," Dr. Skinner said. "Each species will be marked with laminated plastic tags, so that visitors may readily identify plants without the services of a guide."

Travelling north from the Mount Hamilton area the road passes a service gateway at R Street. This eventually may become the main entrance. Nearby will be the new administration building, greenhouses, and the Herbarium of the Arboretum. The Herbarium, a valuable collection of 470,000 dried plant specimens, is temporarily housed at the Plant Industry Station, Beltsville, Md.

I inquired about a large pile of old leaves off the road to the right.

"Those are leaf sweepings from the District streets, which we are using in compost beds," Dr. Skinner explained. "We use anything we can get to improve the soil in the areas of the Arboretum that were formerly farmed. Some of it was tobacco land, and you know how tobacco impoverishes topsoil."

One of the most striking Spring blossoms at the arboretum is pieris Japanica

Washington Evening Star photo



Crossing the broad valley of Hickey Run, with its bubbling stream and ponds filled with lotus and waterlilies, we began the steady grade that curves up to the summit of Hickey Ridge. Halfway up, Dr. Skinner indicated a grove of young trees.

"Living fossils," he said cryptically, and to my puzzled look added, "The Dawn Cypress or *metasequoia*. This tree was discovered first in fossil form, and we believed it to be extinct. In 1947 several living specimens were brought down from the

wilds of western China. These were grown from seeds of trees of that same region."

A little farther north spreads the dogwood area, a semi-formalized planting, with avenues of flowering dogwood which eventually will be surrounded by all the forms of *Cornus* that can be assembled. This planting was sponsored by the Women's National Farm and Garden Association as a memorial to the well-known horticulturist and writer, Mrs. Francis King.

Along the eastern face of Hickey Ridge three connecting valleys drop sharply to the muddy banks of the



Washington Evening Star photo

**Mrs. Frank B. Noyes, of the Garden Clubs of America, was the determined lady who wouldn't accept President Coolidge's "No" on development plans for the national capital's Arboretum**

Anacostia River. The widest of these ravines has been beautifully planted with *Cryptomerias*, *Camellias*, and other, chiefly oriental, flora. This project was initiated and is still sponsored by the Garden Clubs of America. When complete it will serve as a living check-list of the plant contributions of China and the Orient to the gardens of America.

Our next halt was in a broad valley devoted almost entirely to hollies and magnolias, a pleasing combination. *Ilex pedunculosa*, or the

rare longstalk holly of China, can be seen here 12 feet high, and hybrid magnolias close to 20 feet. Back in the broad central valley stands the collection of 250 varieties of crabapples assembled with the assistance of the American Association of Nurserymen. Nearby, too, Japanese quinces spread their pink blossoms to the breeze, and cherry trees recall another Washington beauty spot, the Tidal Basin, during the early spring.

Along the banks of Beach Spring Pond, the largest lake in the reservation, water lilies and lotus carpet the water with their broad leaves and waxy blooms in mid-July. Not far away, in a shaded area, grow many varieties of ferns, native and foreign, a section sponsored by the American Fern Society.

Recrossing Hickey Run we followed a central road that winds through open beech woods, home of many of the Arboretum's wild flowers, to the synoptic area again, and back around to the M Street entrance gate.

Speaking of wild flowers, the Arboretum grounds contain a good cross-section of the native flowers, grasses, vines and other flora of the temperate zone of eastern United States, and new ones are being added each year. How many different species now grow there has not yet been determined. Dr. Skinner has 5000 cards in his index, but admits the file is incomplete.

In August 1953 the Arboretum inaugurated a new series of contributed papers with a 47-page booklet entitled "Annotated List of the Plants Growing Naturally at the National Arboretum," by Oliver M. Freeman, formerly botanist and curator of the Arboretum. Both Latin and common names are given, among the latter such odd ones as: adder-tongue, ticklegrass, Solomon's seal, Japanese hop, lambsquarters, bouncingbet, pawpaw, goatsrue, tree-of-heaven, passionflower, Indianpipe, henbit, gill-over-the-ground, mad-dog skullcap, pussytoes, boneset, Joe-Pye-weed, lion's foot, etc.

In such a theatre of nature, the scenes are forever shifting. From March to October the Arboretum never presents the same coloring or appearance for more than a week at a time. Here are some seasonal highlights, selected from the information leaflet:

Late March-early April: The early leaf greens; flowers of the first pears and magnolias, and the early bulbs,

such as crocus, narcissus, daffodils, etc.

Mid-April: Quince, magnolias, earlier azaleas and rhododendrons, and the flowering cherries and crab-apples.

Late April and May: The main masses of azaleas, flowering dogwood, and the later crabapples, followed by native azaleas, mountain laurel and the huge blooms of the elephant-ear magnolia.

Mid-July: Lotus and water lilies.

September-October: Fall-flowering *Lycoris* and *Sternbergia*, and a host of berried shrubs, starting in mid-September and continuing through the spectacular brilliance of October leaf coloration. The latter is highlighted by the rich yellow of tulip poplar and hickory, and the reds and bronzes of the gums and dogwoods.

The National Arboretum, now coming of age, can be many things to many people. To the scientist it is a laboratory for study and experimentation. He comes here to develop new plants—trees of greater beauty, faster-growing timber for commerce and industry. Here he experiments also with trees from foreign lands, studying their uses and adaptability to our needs and climate.

To the nurseryman the National Arboretum is a botanical "Bureau of Standards." In its collections he finds examples of familiar and exotic trees and shrubs, which he can examine and adapt for his own purposes. He can study their appearance and their characteristics of growth. He can turn to the Arboretum as one source of new importations and hybrids for constant development in his own field of work.

The park director and city planner sees here a multitude of shade trees, and can study their application to the needs of his own region. The forester may find new types of trees for his use.

To the school child the Arboretum eventually will be a biological garden of plants, a museum of the woody growing things. And to the average citizen—the native of Washington or the visitor to the Nation's Capital—it will provide a place of striking beauty at any time of the year. No one can come away from such a spot without a new understanding of the rare color and beauty to be found in the infinite variety

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Johnnie M. Gray photos

**Fletching (feathering) the arrows is a colorful operation. The arrows are made from Port Orford cedar, grown in the Northwest**

# Man With a Bow

By IRA A. CLEMENT

**Worker shaping bows of hickory. This wood usually comes from Arkansas and Mississippi. Cypress is used for target stands**



**A** STORY so good it should be true has it that the Ozarks got their name from the descriptive title given the native Indians by the infiltrating Frenchmen "way back when." *Aux arcs* they dubbed them. That is, "Those with the bows." Take the story or leave it. But it must be admitted that archery is a natural in the timbered Ozarks. With hickory and osage for bows, hard white flint for arrowheads, and forests teeming with game, it was not strange that here was a favorite hunting ground for the Redskin.

How appropriate, then, that in a later day the Ozarks should produce the genius as well as the materials for fashioning the finest bows and arrows for present-day bowmen.

All of which is by way of introducing Ben Pearson, bowyer and fletcher and high-powered exponent of archery for business and pleasure, whose plant at Pine Bluff, Ark., is one of the largest in the country for the manufacture of archery goods exclusively.

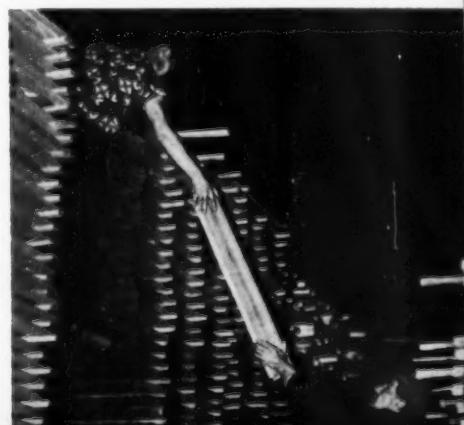
Ben Pearson believes that other sports and weapons may come and go according to the modes and exigencies of the times, but there remains inherent in every human male an admiration and love for the weapon of his paleolithic adolescence.

"No man," he opines, "seeing a strung bow, can resist taking a stance and drawing it in almost exact imitation of the posture taken by his caveman ancestor on the trail of prehistoric prey. It's instinct."

In the case of Mr. Pearson the instinct had an early development. Just old enough to strut in his first Boy Scout uniform, Ben became interested in an archery tournament coming up in his home town, Little Rock, Ark. In his Boy Scout magazine was a Dan Beard article giving

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**Lemonwood, shipped from Cuba, is transferred to factory for use in bow making**





This sweeping view is in the "Blue Forest" area of the Petrified Forest in Arizona

National Park Service photos

## FAMOUS FORESTS

**The land of the trees that  
"turned to stone" is a strange  
sight that awes visitors  
to sun-baked northeast Arizona**

**By CREIGHTON PEET**

# The Petrified

**S**OME three or four hundred years before Columbus sighted land, early Americans living in the Petrified Forest in what is now northeastern Arizona, built themselves community houses, some with as many as 100 rooms, using sandstone and sometimes big chunks of wood they found lying about.

The only unusual thing about this was that these chunks of wood were petrified, and that the pine trees from which they had been formed, had floated into this now dry and sun-baked area around 160,000,000 years before, when it was a swampy lowland.

While various Indian tribes have had some pretty fantastic explanations for petrified wood (the Navajos said these logs were the bones of the monster *Yeitso*, who was destroyed by the sun, and that his blood can now be seen as congealed lava)—when it came to building their big houses, these brightly col-

ored chunks were just more pieces of useful stone. Ruins of several of these buildings, probably put up by early Pueblo Indians, can still be seen in the Petrified Forest. One, called the Agate House, has been extensively restored in recent years. As to why the Indians who built these houses, abandoned them, we know from a study of the annual rings in logs found in ancient structures, that from the year 1379 to 1400 A.D., there was a terrific drought in this region. Without water, these people could do nothing but move away.

But back in the Triassic period, some 160,000,000 years before, when the trees which were to become our Petrified Forest were living, man wasn't even in the blueprint stage. The first small dinosaurs, some types of which later grew into monstrous 90-foot-long creatures, were just starting their 100,000,000 years as the dominant animals on earth.



Petrified log with largest root system yet found in Forest



## d Forest

There were also phytosaurs, predecessors of our crocodiles, and stegoccephalians, resembling our salamanders, but about nine feet long, weighing some 600 lbs. and sporting a strange third "eye" in the tops of their heads. Scientists excavating in this area have also uncovered the fossilized remains of millions of fresh-water clams.

Geologists believe that the trees which later turned to stone grew as much as a hundred miles away, and were floated down to this area by many sediment-carrying streams which very quickly—perhaps in a few years—completely covered them with volcanic silica ash. This in effect, sealed them away from the air so rapidly that they did not have a chance to decay. On their trip down, it is believed, these logs were so battered about that they lost not only their roots and branches but nearly all their bark—which accounts for

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These are petroglyphs of man and woman near Newspaper Rock





Washington Post photo

"Mr. Douglas, I presume," says Interior Secretary Douglas McKay as he greets the "walking man" and his party at the conclusion of the 180-mile walkathon

# The C and O Walkathon

— Led by Supreme Court Justice William O. Douglas, 180-mile hike along historic canal wins added support for wilderness values



WILDERNESS won at least a partial victory. That was the consensus in Washington last month as regards the outcome of the 180-mile walkathon from Cumberland, Maryland, to Washington, along the towpath of the historic C & O Canal. It all started when the *Washington Post* published an editorial advocating construction of a scenic parkway along the canal route, to open it up to more people. Supreme Court Justice William O. Douglas objected. He said the canal should be preserved as a wilderness area and challenged *Post* Editorial Writers Robert Estabrook and Merlo Pusey to hike the length of the canal to study the situation on the ground. Both writers accepted.

Several dozen representatives of various outdoor and other groups promptly fell in behind Douglas and the *Post* writers. The party set off down the towpath from Cumberland with much fanfare, all reminiscent of a movie production on location. But it soon became obvious that few of the starters would finish. Most of them dropped out or took to hitchhiking after the first couple of days. Mountain Climber Douglas was not one of them. He and eight others finally had the distinction of hiking every step of the 180-mile route. The "immortals," as they jokingly called themselves, were Douglas, Harvey G. Broome, Grant Conway, Al Farwell, George F. Miller, Olaus Murie, John Pearmain, Colin Ritter and Constant

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There were probably times when Post Editor Merlo Pusey, left, and Justice Douglas wished they had one, but here they chuckle at the sign excluding vehicles



Hikers pause briefly at Paw Paw tunnel in Maryland. For some it was the first glimpse of such relics of the past



The group shortly after setting out from the starting point, Cumberland, Maryland. Weather was brisk, but warmed up later



Sometimes the going was reminiscent of an army obstacle course. Blisters, not terrain, were main worry



A group of young Oregon foresters, ignoring the old taboos, seem to have solved the riddle of Douglasfir regeneration

# Breaking Natures Code

By ARTHUR W. PRIAULX

DISCOURAGING advice was easy to come by when a group of young Oregon foresters started extensive experiments back in 1945 with various methods of direct seeding.

"You men are wasting your time. . . . Don't you know you can't sow western tree seeds and get results? . . . If the birds don't eat them, the mice and squirrels will. Any missed by those critters will be baked crisp by the sun."

That was the way it went back in 1945. The truth is that a majority of people in those days echoed the sentiments of one greybearded forester. He charged, "You are just throwing the taxpayers' money away with such foolishness."

Fortunately, the leader of this field crew wasn't bothered. It just helped to stiffen his backbone. His name is John B. Woods, Jr. And it's a lucky thing that Woods and his men had tough hides for they went on to perfect one of the most promising forestry developments of our generation. Nature's mysterious formula for regeneration of the vast forests of the Douglasfir region seems finally about to be solved.

For half a century, every effort at inexpensive direct seeding of non-stocked forest areas met with heartbreak and disappointment. Back in 1909 to 1918, the U. S. Forest Service had direct seeded some 28,000 acres on four national forests. The attempts were miserable failures. These early, poorly executed experiments put a curse on direct seeding for nearly four decades. Old time foresters never forgot.

The old taboos didn't bother the young crowd who were anxious to try some of their own theories. They didn't mind plowing over old ground. They might even turn up some pay dirt. And at long last, they appear to have "broken the code" of one of Nature's best kept secrets.

Since 1949, more than 74,000 acres have been seeded directly from the



air by low-flying helicopters, and the results are encouraging enough to lead one prominent forester to say: "We have found a wonderous new tool of forestry. It could well revolutionize present costly methods of artificial reforestation in many areas now being hand planted."

For the record, direct seeding by helicopter costs approximately one-third to one-half of the slower hand planting. Depending upon the cost of seed, an acre can be seeded from the air for \$6 to \$8. This includes two flights with the helicopter, the first time with poisoned grain to kill the rodents and the second flight a few weeks later with the seed. Hand planting will run from \$18 to \$25 an acre, including labor, nursery-raised trees and supervision.

Oregon's state forestry department, with the great 300,000-acre Tillamook Burn for a laboratory, has been in the forefront of the direct seeding experiments. Here is a vast area of blackened snags. Funds have been limited. Direct seeding, if it could be developed, seemed one of the answers. Oregon's state foresters have sown seed by helicopter on 43,200 acres in five years.

Crown Zellerbach Corporation, with eight large tree farms scattered along the Oregon and Washington rain belt, has aerially seeded 13,007 acres during the same period. Weyerhaeuser Timber Company baited and seeded 3227 acres between 1949 and 1952 and an additional 530 acres were seeded with tetramine-treated seeds in February, 1954. Another 4825 acres have been baited only to protect natural seed fall from excessive rodent eating. Other private landowners in Oregon and Washington have dropped seeds on some 2500 acres. The U. S. Forest Service in 1951 used an airplane to seed 3300 acres with another 1500 acres seeded by the Bureau of Land Management with helicopter.

Not all these aerial plantings have been successful, and some have failed



Harold M. Brown photos

Helicopter Pilot Carl Brady, left, examines batch of mixed fir, hemlock and spruce seed with Forester George Schroeder

completely. In some cases of failure there were explainable reasons. In most cases of success, natural conditions were simulated as closely as possible.

What's so difficult about dropping tree seed on the ground? Man has been successful in every other form of agriculture. Why wouldn't trees grow from seed? That's a good question and one that stumped forestry experts for five decades until these young Oregon foresters began searching for the answer. The gimmick was to *imitate nature*. As hot autumn winds open up seed-bearing cones, the seeds with their tiny aero-dynamic designed wings fall free and float lazily to the ground. If there is a wind, they might be blown a quarter or half mile, or into the next county.

So far, so good. We drop seeds from an airplane. We make like Mother Nature. But no trees grew in the past. The seeds were good, because we tested them. They fell in a good pattern, because we checked that too with yard-square blankets.

What happened? Something must have eaten them. And, that's exactly what happened.

Man has known for many years that some forms of rodents, mainly the kangaroo mice and white-footed mice, and all of the squirrel family, live mostly on insects and seeds. A mouse will eat 300 seeds a day. He eats his way from cradle to grave. The early direct seeders knew all this, but what they didn't know was how to develop economic poisons. They were encouraged to experiment further with the increasing efficiency of the airplane and helicopter.

The difference between man and Nature was that the old girl was dumping down many pounds of seed per acre, while man, because of the cost of gathering them, at best couldn't afford to plant more than a pound an acre, preferably a half to three-fourths. Nature gave the mice more than they could eat, the result was a few escaped and quickly germinated and so the mysterious rhythmic cycle of the forests went on.



If they couldn't set a table big enough for all the customers, the young foresters rationalized, then they better get rid of the customers. For the first several years of their experiments, they were under wraps of secrecy, for too many well-meaning wildlife lovers might misunderstand their motives. Because birds might get some of the poisoned bait which was dropped by helicopter a few weeks before seeding, the treated wheat was dyed green for birds will not eat unnaturally colored food. Every precaution was taken from the start to make certain the poisoned bait was taken only by certain rodents.

After many experiments, Oregon state foresters believe they have found the most efficient rodenticides. Large kernel rink or white Holland soft wheat is impregnated with green coloring and sodium fluoroacetate. Other wheat is impregnated with thallous sulphate and it too is colored. One-quarter pound of each poisoned variety, making half a pound total, is dropped by helicopter on each acre. One poison works rapidly, a single kernel proving lethal, while the other poison takes several kernels to kill.

A successful formula for eliminating the rodents required several years of experiments. These little animals multiply very rapidly and move in where food supply is most plentiful. If the exact acreage to be planted with tree seed is poisoned, the mice from neighboring lands would quickly move in and take over. The final solution of this problem is to bait not only the area to be seeded, but a buffer strip clear around the plot. The buffer strip is generally a quarter mile wide and completely surrounds the area. Mice

control procedures have been worked out pretty well, but the foresters continue to study the problem, trapping areas to determine baiting effectiveness, to find how rapidly the mice increase after baiting and other data.

Through all the trying ordeals of early experimenting with rodent control, A. W. Moore, U. S. Fish and Wildlife Service man in Oregon, gave yeoman help. He had the enthusiasm of the young foresters. Was always willing to explore each new specific, to find a safe method of controlling rodents without danger to bird and other life. Every forester identified in any way with these various direct seeding experiments gives Moore credit for making the greatest single contribution to the program in his endless search for efficiency.

It should be mentioned that one of the many desirable features of helicopter direct seeding is its speed and tremendous flexibility and adaptability. For instance, a helicopter can keep an even distance above the ground insuring uniform spread of seed. The machine can take off and land on a patch of ground about right for a volley ball court. It covers eight acres a minute, or 2000 times faster than hand planting. It costs less than one dollar an acre for flying time. The larger the area the lower the unit cost of aerial seeding.

Now comes the big question: Just how successful have been these revolutionary new techniques in reforestation?

Undoubtedly the most enthusiastic supporters of direct seeding by helicopter are the group of men in the Oregon state forestry department who have been the pioneering influence in this movement. Men like

John B. Woods, Jr., who has been experimenting with direct seeding since 1945; R. M. Kallander, former rehabilitation director; Dick Berry, research director; and John H. Hann, once assistant to Kallander, now his successor as Kallander steps into another forestry job.

Another firm believer is Clarence Richen, chief forester for the Crown Zellerbach Corporation, and his assistant, George Schroeder. Both men have been close to this picture since 1946. A number of men with the Forest Service have worked on the project in recent years, but Charles Rindt, with region six at Portland, probably is closest to the actual work. Lee Hunt, in charge of rehabilitation for the Bureau of Land Management in Oregon, has had charge of two years of experimenting with helicopter seeding by his agency. Ed Heacox, managing forester for Weyerhaeuser Timber Company, has encouraged his firm in some experimental work in this field. Gene Knudson, Willamette Valley Lumber Company chief forester, Vern Bronson, chief forester for Tree Farm Management service, and Fred Sandoz of Booth Kelly Lumber Company, all have used direct seeding.

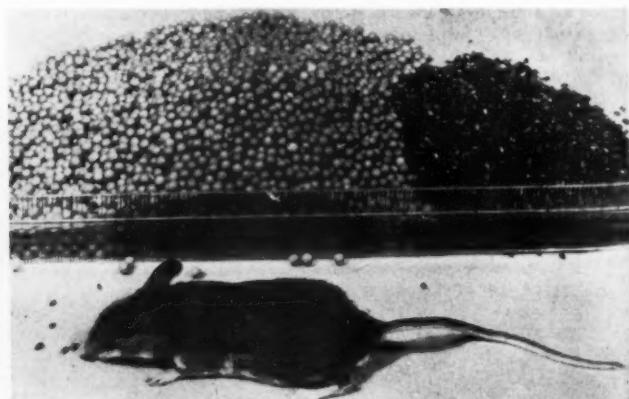
Before we make it appear that this is strictly a young man's show, we should mention that most foresters, young and old, really have an open mind and are waiting for more conclusive evidence. However, a group of older men deserve credit for backing up their younger subordinates during the risky early years of costly experiment, when many thousands of dollars could have been spent in a wasteful pursuit of an illusionary phantom.

Ed Stamm, vice president of  
(Turn to page 52)

Cone gathering is slow, expensive work. Here they are being unsacked and placed on trays for drying



The pesky white-footed mouse long has been the villain in man's attempts to reseed forest areas by direct methods





# They're the smallest

When it comes to diminutive parks and forests it would be hard to beat Waldo Park in Salem, Oregon, and the one-tree "forest" in Lyon County, Nevada

Waldo Park and Big Tree on the corner of Summer and Union Streets in Salem, Oregon. Oregon state capitol in distance

**S**OUTHBOUND traffickers through Salem, Oregon on highway 99E approach the corner of Summer and Union Streets and are perhaps surprised and momentarily confused to see before them a large tree growing in the street. This is Salem's Waldo Park. The park is a thin 12 by 20 feet and is believed to be the smallest city park in the United States. This park, this island in the street, is occupied by a solitary redwood tree, plus a crowd of traffic signs. The 80-foot, 80-year-old tree, rare in that part of Oregon, is not the same as the California Redwood. *Sequoia gigantae*, or Big Tree, is the Oregon tree's family name, while the redwood of California is the *Sequoia sempervirens*, which means always living.

Waldo Park unwittingly had its

The American War Mothers Memorial at the base of the 80-year-old Oregon tree



beginning in 1872. William Waldo, a prominent citizen and pioneer of Salem, bought the tree sprout from a peddler in that year and planted it in his front yard. His land was then in acreage and outside the city. Years later when that part of Salem was plotted Big Tree was condemned, since it would be in a proposed street, and an obstruction to traffic. But because of protests from irate citizens it was allowed to live. Summer Street was therefore laid on both sides of it. Again, years later, when the street was paved, the Sequoia was sentenced to death by the street superintendent. The sentence was recalled briefly, and then revived. Axes and saws were readied for the execution. In the ensuing argument the American War Mothers pleaded for the life of the tree. They wanted it for a memorial to the service men home from World War I. The American War Mothers won their fight, and Big Tree was spared a second time.

It was not until June, 1936, however, that the tree had a plot of ground it could call its own. The Salem City Council adopted a resolution formally proclaiming a 12 by 20 foot area around the tree to be henceforth known as Waldo Park.

Lyon County in the state of Nevada has a "national forest" which consists of one tree. A cottonwood seedling was found by the side of

road on Route U.S. 95A north of Wabuska, its discoverers being an Assemblyman and a Commissioner of Roads. School bus passengers bring water to help it along or observe a minute of silence as the bus drives by. This is a lone tree in desert country and symbolizes the tenacity of nature's will to survive under rugged conditions. Natives drive out to watch its growth, bringing water bags in their cars to empty on the roots of the little cottonwood tree.

This lone cottonwood in the Nevada desert symbolizes tenacity of nature's will



**Viola C. White, author of the diary appearing on these pages, is a Vermonter with an unusual appreciation of the sights and sounds that go to make up nature**

By VIOLA C. WHITE

**March 1.** A day of blinding silver light and extreme cold. In a scene of wintry whiteness two black ducks are swimming below the waterfall, diving and reappearing almost at the same spot in their absurd and charming fashion.

**March 7.** Heard the grackles this morning—almost as if a rusty door consented to oblige with a musical selection. Nevertheless it gives me a joy to hear them. The willow shoots of the big tree in the Wissler field look yellow instead of red.

**March 8.** Out West Road. Full-length shadows of trees on the snow, the shadows a brighter blue than the sky. On either side of me rise snowdrifts crusted with silver filigree. I meet Dr. Hitchcock with a net in one hand and a bag in the other, who has been out dredging for specimens in the rotting pond material. "I dug up a salamander and a frog too," said he.

**March 10.** "The blackbirds are here," said Mary Dean morosely. "I meant to stuff up their hole in the apple tree before they arrived, but they came too soon." She hates them because they destroy other birds' nests, robins' especially.

**March 11.** Before the snow started I walked at noon to Chapman orchard. Seeing an icicle water color hanging from a maple tree I broke it off and tasted it, thinking to refresh myself with a champed-up icicle, when to my surprise it was sweet as maple syrup! Indeed, it was maple syrup, or rather maple sap. One of Nature's delightful surprises, in the midst of a barren landscape bounded by the cemetery upon the one side and the frozen pool upon the other. I returned to the library in excellent spirits.



# Springtime

**March 13.** Set out after dinner on the road that goes to Battell woods to look for pussy willows. The catkins as a rule stand at the bottom of banks deep in snow. I slid down to a tree with a brook beside it and gathered the lovely things, rose-red at the core, the exquisite bright color that only snow can bring. At the edge of the wood a bluebird sings his lullaby that seems in its somnolent quality to hold the earth still in sleep instead of trying to wake it up.

**March 14.** The whole crow migration, seen against the screen of the snowy Adirondacks. I stood close enough so I could hear their wings creak as they went over. "Did you see the wild geese go over Middle-

bury?" Mrs. Hustis asked me at Red Cross. She said they were flying with a longer line on one side of the wedge than on the other, then as they went over town, flying high, some crossed from the one side to the other so that it looked like a letter A in the air, when they achieved just the contrary effect, one side still longer than the other, but the opposite side. She said she never saw them change formation before, in going over the town.

**March 15.** Professor Cady has seen no spring birds, but he said he found a skunk sitting on his incinerator, which is a sign of spring.

**March 16.** For the past week I have heard woodpeckers about, tapping on a dead branch so rapidly



Photos of scenes around Middlebury, Vermont, by Warren E. Case



# in Middlebury

it sounds like a prolonged snore. The largest of all woodpeckers the pileated has arrived in town and is whacking out the trees with a noise like chopping wood.

**March 18.** Saw two robins running over the muddy grass as though they had always been there. I'm told if you see your first robin in a tree it means good luck, on the ground contrarywise. They all mean good luck to me.

**March 22.** Much warmer today. The sap is running. The maples glisten, and here and there a large, wet, sweet spot forms on the pavement from a broken twig. Find in the woods off the Rutland highway three iron-rusty pails on a maple so venerable it has a girth like Falstaff,

with almost as many dead branches as live. The pails look so battered and decrepit they might have been left and forgotten by Rip Van Winkle. There they hang in the wood with the bright new pails all around them, and this year's sap running into them.

**March 26.** Into West Wood, to rejoice in the catkins of the aspen. To me they compare favorably in beauty with the pussy willow. These too are silver-gray and furry. Less regularly set along the stem, but after you have familiarized yourself with the bright chestnut of their twigs and sheaths and the vigorous individuality of their arrangement the others look a bit artificial by comparison. They share with the

willows the occasional rose-red color at the core. They could often be used for decoration in place of the others, I should think, if the others happened to be scarce in the region.

**March 28.** On the way out to Cornwall hear meadow larks and song sparrows, and see a purple finch. No peepers yet. Passed a row of sap pails, two of which were overflowing. I know nothing more impressive than the never-hurrying, never-ceasing, continual drip of the sap from the spigot mouth. It comes to me before sleep, after I have turned out the light, and mingling with the sound of thaw outside my window fills me with a sense of Nature's bounty.

**March 31.** The ice went out last night, and Otter Creek is flowing free today. So indeed is most of the rest of the landscape. I walked the Weybridge triangle in the afternoon. Everywhere streams of an indescribable yellowish blue poured down the slopes, never in a straight line, always zigzag. In the hollows stand sizable lakes with waves tossed up and reflecting blue sky. It looks as though March were going out not like either a lion or a lamb but a seacow. The real cows and the horses stood silhouetted against the top of the hills, poor things, with the watery world in commotion below. It is exhilarating—the earth-wide break-up of winter.

**April 1.** For several days a large pileated woodpecker has continually whacked a telegraph pole down by the station, riddling it with holes until someone who could bear it no longer took a shot at him. I'm told their spring drumming is not bug hunting but a mating call, sometimes performed on metal for the sound to travel farther.

**April 2.** Again the bright rosettes appear upon the tamarack, the larger rose-colored the pistillate that later form the cones, the smaller yellow ones the staminate.

**April 5.** The poplars have catkin today, the willows have a haze of green, the silver maples are starting to blossom, their yellow pompons a thing of beauty against the deep blue sky. The bud bracts of this lovely tree are reddish brown, the stamens within like pale yellow spun glass. When the blossom expands



and shows the center it gives the blonde effect against the sky.

**April 8.** I saw a phoebe bird today, wagging that flexible tail of his up and down but never across. As I started out Weybridge way a hawk sailed with outspread wings over Battell orchard as though giving a public exhibition of air flight. Far from avoiding spectators the hawk's performance always seems to ask for them. You hear the robins now, singing as loud as they can sing between the chapel chimes. The chimes seem to stimulate them.

**April 11.** The rain turned to ice, which, sheathing every budding tree and shrub, made a magic landscape—the glitter of trees above the green-

ing grass, the red maples in particular most festive objects, their vast bouquet of crimson tree flowers shining through ice.

**April 14.** Walked out South Street to hear the peepers, and heard just one peeper, sounding over and over again under stars shining with the crystal ice of spring. What courage it must take, when nobody else has waked up yet!

**April 15.** At the Ledges find Dutchman's breeches in full beauty, which is not easy to do, as insects start chewing holes in it as soon as it appears, hepatica and saxifrage. It is the day of the bloodroot. When I arrived the whole bloodroot population was folded into small tulip-like buds; then, as I stood there and watched, the sun acted upon them, and I saw them open out their yellow hearts till they extended as on a lake of level air.

**April 19.** We drove out to East Middlebury in the light of a cloudless sunset, bumping over the wood road. Trees grow so dense here on either side they seem to be trying to push you into the deep mud pond in the middle which if you once fell into you would never be the same again. Here lay the stretch of pasture land with its old stump fence and budding maples in the light of a golden sunset, the arbutus flowers either hidden completely under the green moss or thrusting up their pink noses of buds through it. Continually as we picked them we heard a loud quacking, and from time to time the crows. We wandered into the depth of the wood, but the flowers there had hardly begun.

**April 21.** At last the peepers in full chorus. I heard them a block away as I started along South Street.

**April 23.** The fragrance of the willows now, carried to the four quarters of the town on the galloping winds! The snow fences lie rolled up into tight red cylinders beside the roads. Marsh marigolds shine in the wet meadow—as good as a divining-rod for detecting the presence of water.

**April 24.** Walked in West Woods to the thump of rain. Rain never sounds more important than in a forest paved with dry leaves. Every drop counts. The most beautiful of flickers, lined with solid yellow. Unmistakable green leaves on aspen and willow. Birch and beech, not yet. Silver maples in leaf, with small light-green keys beginning. The flowers of the red maple covered the dried leaves of the forest floor. The glaucous, translucent trees the color

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# Trumpeters on the Doorstep

Trumpeter swans, among the shyest of our waterfowl, ordinarily don't like humans. But five of them "adopted" a family in British Columbia

**S**INCE the trumpeter swan is not only the largest and rarest, but also the shyest of our North American waterfowl, it was with something like incredulity that Mr. and Mrs. S. H. Colwell, of Kleena Kleene, British Columbia, sighted five trumpeter swans swimming about on the patch of open water just 50 feet from their front door.

It was January, too early to expect the annual migration, and as trumpeters elect to remain in the area of their breeding grounds on lakes and large rivers that do not freeze, their presence was something entirely out of the ordinary. To people living in isolation, the sight of wildlife in chill winter is unbelievably cheering, and the Colwells took only a moment to assure themselves that their eyes were not deceiving them, and that the great birds were actually diving for the luscious grass where the Kleena Kleene River emerges from One Eye Lake.

When the Colwells snatched their cameras and crept cautiously towards the big birds, they were fearful they would swoop away. But the swans' only indication that they were aware of the presence of humans was an occasional low-pitched trumpeting which is their characteristic note.

As it turned out, the Colwells' fear that the birds might be timid proved premature. True, the swans are extremely sensitive about changing habitat. And ruthless slaughter in the past has taught them to fight shy of civilization. But these guests promptly adopted the Colwells. Also their pet Canada goose, Peter, who had remained behind when his cousins flew south the previous year.

Mr. Colwell is stationed 200 airline miles northwest of Vancouver as a Dominion Government telegraph agent while Mrs. Colwell is in charge of the Meteorological station. While they find their life highly interesting, guests are few and far between. That was why the visiting trumpeters marked an important event in their

By CHARLOTTE B. NORRIS

lives. The Colwells soon found themselves discussing their every antic.

From the first, the trumpeters ate the grain the Colwells tossed to them but refused carrots with disdain. It got to the point where they had to elbow the bigger birds aside to make sure the smallest got his share. Moreover, Peter, who had previously had the whole spotlight to himself, began to sulk. Before long, the trumpeters found their way to the house and peered in through the windows. One of them boldly walked through the backdoor on one occasion, and trumpeting quietly to himself, spent a curious half hour examining the home's interior. The enamel on the kitchen stove fascinated him particularly. Soon others came to call.

Peter joined the flock in their brief flights above the house with the Colwells noting that the goose made a

faster takeoff and landing but that the powerful trumpeters outdistanced him once the flight straightened out.

Much of the time the trumpeters just rested, often just outside the house. As Mr. Colwell commented fondly, "They are big, simple-minded fellows. Their unbelievable trust was their undoing in the past. How could anyone harm them?"

The doings of the visiting trumpeters at the Colwell residence was soon the talk of this very isolated part of the world and the airways carried their every new adventure. A few visitors arrived in due course, from many miles away, just to see trumpeters eat grain out of a can held by a human hand. Mrs. Colwell cautioned these guests to take care not to disturb the swans when they were inside the house. The thought of those powerful birds, with their eight-foot wing spread,

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The trumpeter is a beautiful creature, with rare grace and dignity



Hunting the gawky-looking creature that roams the woods of Louisiana's LaSalle and Catahoula Parishes is great sport, but you had better let some native show you how it's done



Elmore Morgan photo

# HOG FISHING IN

**H**OG fishing" in Louisiana is a sport which may be a bit unusual but not altogether unexpected—not in LaSalle and Catahoula Parishes anyhow. This is "hog heaven" country where the piney woods rooter has long been famous, not only for his contribution to the hill country economy but for the sport of hunting him.

So, why should it have taken me by surprise to see a settler trudging into the woods with two hog dogs, a rope and a fishing pole one day? Henry Pendaris was just going "hog fishing" on Beech Creek for the day, which is his term for rounding up hogs for marking, inoculation for cholera or any of the other menial chores that any self-respecting woods hog runner has to do. Here's how he does it:

The dogs, which are true blue leopards of the famous Catahoula breed, corner a group of hogs by barking and snapping at them and Henry throws them some barnyard feed which they devour with the gusto of a released Korean prisoner of war. While they eat, Henry simply hooks the rope onto the fishing pole and makes a lasso at one end. He pokes the long pole out as far as it will go, loops the lasso around one of the hogs and then pulls him out of the chow line to mark his ears or inoculate him. It may seem a little foolish to the uninitiated to go to all this trouble but anybody, like Henry, who has been gored by a wild woods hog

would appreciate such precautions.

Henry Pendaris doesn't make any money to speak of on his hogs, to be sure, and he threatens to give them up every year. But it's a good bet he'll keep a few out in the woods just for old times sake. Why, woods hogs are almost part of the family, they've been around so long.

It all started back in the days of virgin hardwood timber which stretched up the Mississippi River Delta and throughout the bottomlands of Louisiana and Mississippi. Hog raising was the principal occupation, because one could buy hogs and turn them loose in the forests to feed on the fattening beech mast, acorns and other forest foods. The men who owned a thousand or so hogs like John Guss of Jonesville could be compared in status to the south Louisiana sugar barons or cotton kings.

Now 77 years old, Guss was one of the largest hog raisers in Catahoula Parish and had hogs scattered for ten or 12 square miles throughout the swamps between Jonesville and Catahoula hills. He remembers during the flood of 1922 he rounded up 1800 hogs out of the woods, some so fat they could hardly walk. The main hog port in those days was at Vidalia, from which the porkers were shipped down the Mississippi to New Orleans.

Because hogs were the main means of support for most everyone, hog stealing in the Delta was about as popular as cattle rustling in Texas

and the trees in Catahoula were much taller to be strung from when caught in the act. Everyone had his own mark for hogs, usually in the form of notches in the hog's ears. Since 1910 there have been 220 different marks registered just with the LaSalle Parish Clerk of Court. Written in longhand in the clerk's brand book are such descriptions as "upper and under bit in each ear," "crop and split in right and upper figure 7 in left ear," and "crop upper and under bit in right ear and crop split in left ear."

All owners didn't bother to register their marks, however, and some didn't even bother to mark the hogs at all; but the code of the hills protected them from theft all the same. Any self-respecting hog owner can identify his own hogs and those of his neighbors without looking at the marks. The fact they can still do it today was borne out recently in Grant Parish.

It seems that two men were "plenty tired of them neighbor's hogs" eating up their gardens, and decided to load them on a truck and deposit them in another part of the parish. After they loaded them, however, they got what they thought was a better idea and took the hogs all the way to Arkansas and sold them at an auction. This looked like a good business proposition until the hog owner found out about it. The owner charged them with hog stealing and, through help of the sheriff, traced the porkers to Arkansas and from there to an auction

By ED KERR

# IN LOUISIANA

barn in Mississippi. There, before several witnesses, he positively identified his five unmarked hogs which were in a pen with about 30 others. Both hog stealers got three years in the state penitentiary.

But the old settlers wouldn't recognize their beloved woods hogs today. Gone are the days of virgin timber whose succulent mast made every day a holiday for the woods hog. Even when the bottomlands are dry, the mast is none too plentiful but, worse still, levees cause backwaters to stand in the swamps many months of the year and droughts play more havoc with mast production, as it were.

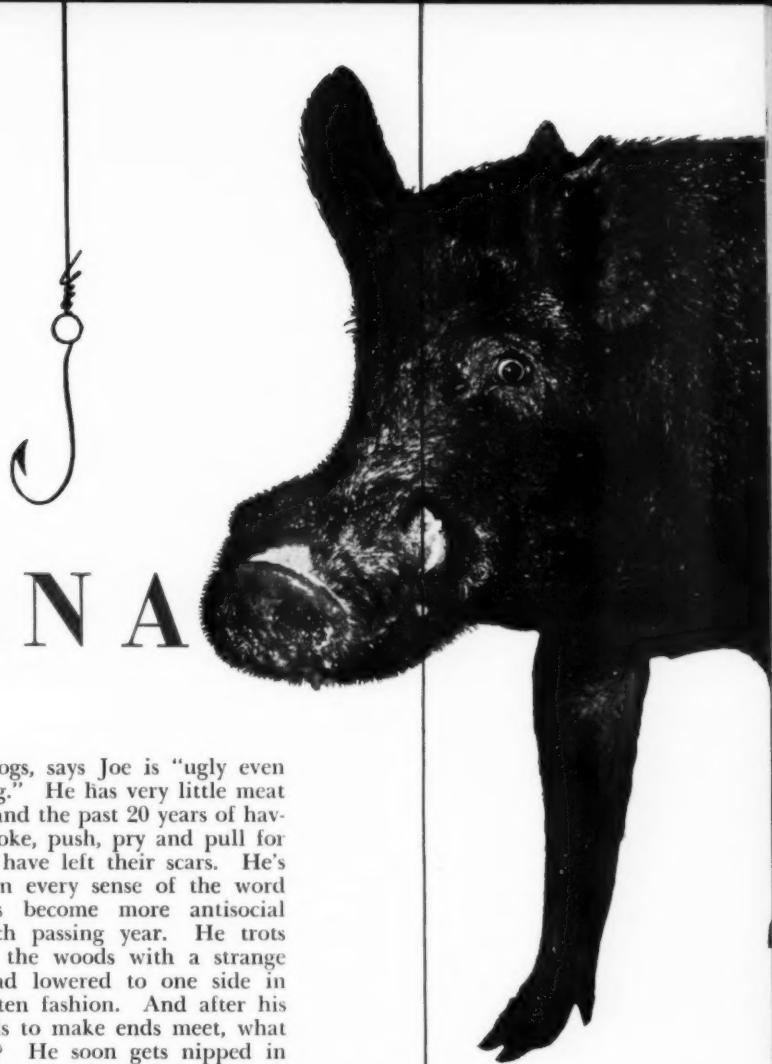
Today, Joe Woods Hog is a gawky-looking creature. Walt Hopkins, noted forester who has done much research into the way and habits of

woods hogs, says Joe is "ugly even for a hog." He has very little meat on him and the past 20 years of having to poke, push, pry and pull for a living have left their scars. He's "pore" in every sense of the word and has become more antisocial with each passing year. He trots through the woods with a strange gait, head lowered to one side in browbeaten fashion. And after his long toils to make ends meet, what happens? He soon gets nipped in the tail by a Catahoula hog dog and, when he chases the dog into a pen, the dog jumps over the fence and he's trapped until his owners are ready for their winter meat. Such is a hog's life in the woods today.

But, wait! Don't be completely taken in by this shaggy bag of chittlings! The modern generation

**Hogs roamed at will on left of fence but were kept out of area on right, which shows how longleaf pine can reforest itself naturally if kept free from hogs**

USFS photo



of woods hogs is really eating high on the man in Louisiana these days. They don't have much hardwood mast left to eat, but thanks to enterprising forest landowners, they are doing very well on fresh, succulent pine seedlings and they prefer the type which is planted by hand, thank you!

At the rate of six seedlings per minute, woods hogs in Louisiana are eating pine seedlings faster than man can plant them. Although this new menu is not as fattening as hardwood mast, it is staggeringly expensive. One sow eats about 25 dollars worth of seedlings a day!

Of course, the hog has long been known as the culprit which played a large part in stopping natural reforestation of the Deep South's longleaf belt. Henry Hardtner identified young longleaf's murderer in the early part of this century after observing woods hogs at work; and, on the Chapman Forest in Urania, proved his point by growing longleaf pine on 1500 acres just by the simple expedient of erecting a fence around the pasture. But this was longleaf, whose thick, juicy bark contains as much starch as corn. No one dreamed that even a woods hog would stoop to eating strange species like loblolly introduced recently.

In 1947, the Nebo Oil Company of LaSalle Parish in Louisiana started a large-scale planting operation to bring about 15,000 acres of cutover lands back into forest production under the direction of Forester W. Murray Palmer. Because they were

so near the swamp hardwood land which bred the woods hog, the company ignored the longleaf pine species altogether and planted slash pine at first; but by 1950 it was realized that hogs ate slash, too. Therefore, in the winter of 1949-50 they planted loblolly, which showed a remarkable survival record until spring of last year. In five months, woods hogs had ravaged the healthy seedlings until only 195 out of 747 seedlings per acre survived, according to a survey run by the Alexandria branch of the Southern Forest Experiment Station. As it looked certain that the hogs would return the following year and make the destruction complete, Nebo was forced to cancel future reforestation efforts until something could be done to get rid of the hogs.

The hog's fondness for slash pine was discovered almost 20 years ago on plantations like that of the Industrial Lumber company, where hogs completely destroyed 900 acres of slash seedlings planted in 1936.

And, near Bently, Louisiana, where trees were planted 1210 to the acre in 1941, three-fourths of the plantation was covered with "red flags" six years later, those dead reddish-brown twigs which are all that remain after hogs have eaten the vital lateral roots of once healthy seedlings.

Before the Crosby Chemicals Corporation began fencing cutover lands near DeRidder which lies near the Sabine River and Bogue Chitto swamps, no longleaf had survived at

all. They now have 10,000 acres under fence and all planting will be confined to that area.

The only answer to the hog problem in the piney woods now seems to be a hog law, one with enough teeth in it so a forest landowner can render his holdings secure from savage attacks of the woods hog. Such a law was sought in the last session of the Louisiana legislature but it failed by one vote, so another (and better) bill will be introduced this summer.

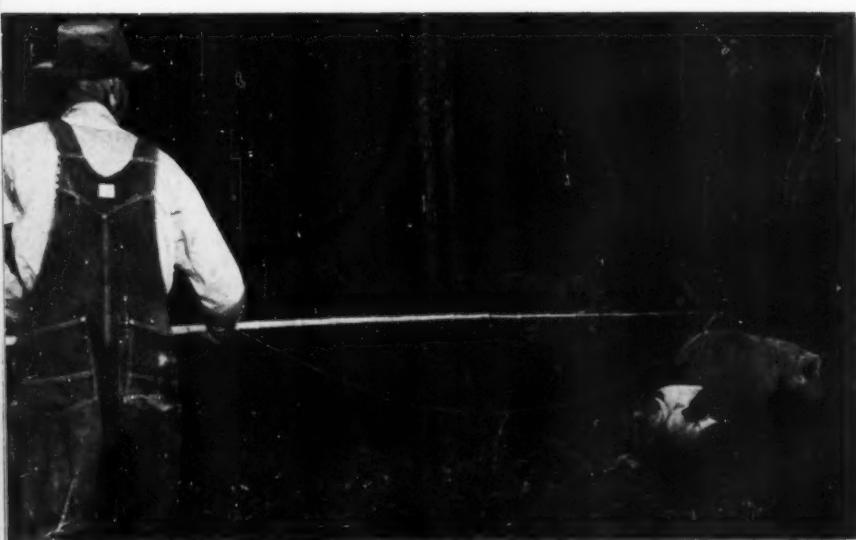
State Rep. William Hodges of LaSalle Parish, chief opponent of the hog bill, maintains that such a law would be moving uncomfortably close to a general stock law which he and the majority of rural legislators are fighting bitterly. And besides, he states, "the hog problem is taking care of itself. They (the hogs) are steadily diminishing in number and won't be a problem at all in three or four years." He claims that the forest landowner will do himself more harm than good with a hog law because the people will destroy more timber by revengeful fires during those three or four years than the hogs will. Fencing is the answer to their problem, not a law, he says.

The large forest landowner of Louisiana, however, doesn't see it that way. "When Mr. Hodges talks about fences," he counters, "he's forgetting about the small landowner who can't afford to fence five or ten acres of forest land." In a pinch, the large forest landowner admits, he could fence his large acreage of plantations like Crosby Chemicals is doing in Beauregard Parish with 10,000 acres; but the small landowner can't afford it, so he just won't plant trees at all.—Another point which large landowners make is that most of their acreage is scattered and is not comprised of just one big block of land.

Even if the law is passed outlawing the woods hog, forestry leaders and the spokesman, the Louisiana Forestry Association, are not fooling themselves into thinking this will be a panacea. They know it will take several years before terms of the law become woven into the mores of the people, so they feel there's no time to lose in getting the law on the statute books.

They remember that the state of Mississippi had had a state-wide stock law, including swine, in effect for many years prior to the time that forest Ranger Fred Ames of the U. S. Forest Service was tried under

(Turn to page 50)



"Peeg to 'em, boy!" Henry Pendaris is about to lower the loop around one porker's head and drag her away to be ear-marked

## A Tale of Two Cities

# One Founded on Belief, The Other on Scorn

By H. H. CHAPMAN

**O**N the Missouri Pacific Railroad in Louisiana west of the Great River are two small towns, each owing its existence to a single lumber company and sawmill. At Urania, Louisiana, half way between Monroe and Alexandria, Henry Hardtner and his brother Quentin, known as Quincy, purchased a small sawmill about the year 1900. Borrowing \$5000 from a railroad promotor, a Mr. Edenborn, they acquired some timber lands northwest of town and started logging by rail. They built up their holdings to about 100,000 acres.

Henry Hardtner had a bent for crops. In 1913, W. W. Ashe and Wilbur Mattoon of the U. S. Forest Service urged him to try fencing hogs out of a tract of longleaf pine land that had been cutover in 1904, and which he had bought for \$1 per acre. They assured him that if he would do this, and stop the annual fires which swept over these cutover lands, he could secure natural reproduction of this valuable pine, something unheard of by the average run of operators.

These young federal foresters then established a sample plot one acre in size; half of it was fenced, half left open. A heavy seed crop in the fall of 1913 had produced thousands of seedlings per acre on these cutover lands, due to the presence of seed borne, by 1913, on trees too poor to cut in 1905. Within two years, on the unfenced portion, the hogs had destroyed the last seedling.

The protected plot was divided into two quarter-acre plots, to determine the effect of annual winter fires. One was burned every year, in February, the other protected from fire. Although the longleaf seedlings, then in their second winter, actually survived the first, and the succeeding fires, the loss of foliage set back their growth, and those on the unburned plots exceeded them in height growth.

For six years it looked as if all

that was needed in restocking cut over longleaf pine land was a few seed trees, and complete exclusion of hogs and fire. But by the time the next heavy seed crop of longleaf pine occurred in 1920 Hardtner, aided by observations of the Yale School of Forestry, discovered that in the complete absence of fire, a spore-borne disease had built up, which defoliated the young seedlings and eventually killed them. He again revised his ideas, and adopted, for the first time in the South, the plan of controlled burning, applied at three-year intervals, to disinfect the pine areas, and to kill back competing hardwoods of a worthless character.

The hardest lesson to learn was the need for continuing the three-year burning interval after crowns of the seedlings had grown beyond the reach of the flames. In the longleaf pine type, absence or exclusion of fire for more than three years results in an accumulation of dense dead grass and shrubs, as inflammable as gunpowder. Hardtner learned that when a fire got started in a dry period or with a bad wind, the otherwise resistant longleaf seedlings and poles were killed and the entire stand wiped out. After this had happened four times in his 20-year old dense pole stands he adopted the practice of burning the ground over, in the winter months, under controlled conditions every three years.

The far greater portion of Hardtner's forest lands lay in the loblolly-shortleaf-hardwood type, with a few thousand acres of hardwood bottoms. Here fire protection was vitally necessary and was given with effective results. But even on these lands it was found that when fire had been completely excluded from cutover land after logging, the growth that came up was composed

largely of poor upland hardwoods and brush, with very few and scattered pines. Yet when fire had followed logging, seed trees being usually sufficient, the pine seedlings were abundant and dominant in the reproduction. Again following the advice of the Yale consultants, Mr. Hardtner and his foreman, Francis Smith, tested this practice of burning, with startling results, securing full stocking of thrifty loblolly pine instead of the discouraging mass of vines, shrubs and poor oaks that their vigilance in excluding all fire after cutting had produced.

Henry Hardtner from the first had determined to grow new crops of timber to reproduce the forest and put the mill and the town on a sustained, continuous basis. Hence, he was willing to learn and to practice entirely new and untried methods to secure this result. Today the little town of Urania, La., is still a mill town, with an up-to-date plant, and an adequate supply of timber on its own and adjacent lands to supply an annual cut sufficient for its capacity. Though Henry and "Quincy" Hardtner have both passed on, their belief and faith in the future of forest growth has been vindicated.

During this same initial period of heavy cutting in Southern Pine, another company built a much larger mill, and accumulated a greater acreage of land surrounding a small town in Louisiana, 20 miles north of Urania. Its president was very sympathetic with "forestry," extended the hospitality of his company to the Yale foresters in 1907 for a spring camp, and would have been glad to see his company go into the tree growing business "were it not for the obstacles of taxes, and fire, and the costs involved in reforestation."

His local manager fully agreed with him as to these difficulties. On one occasion, the two men met at Hardtner's famous Roberts plot,

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# GIANTS

## Giant TD-24s Handle Giant Timber to Boost Washington Logger's Big Daily Production Figures

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# in the Woods



**Hoke Logging Company** crew and an INTERNATIONAL TD-24 shown with a recently felled giant swamp cedar. The monster measured nearly 19 feet in diameter, contained 46,510 board feet of lumber.

Photo by R. Curtiss, Clearwater, Wash.

# Our Ornamental Trees

By R. R. FENSKA

**This is the time of year when most homeowners again are giving serious thought to lawns and gardens. If you're one of them, this discussion of the selection, planting and care of ornamentals should prove helpful**

HAVE you been giving some thought to replacing that apple tree that blew down on the corner of your lot last year? Or perhaps you are scouting around for an attractive tree to replace that old maple you had to cut down several years back. With the wonders of nature starting to unfold again, this is the time of year most homeowners give serious thought to their lawns and gardens. But here are problems to consider and perhaps the following account on ornamental tree possibilities will prove helpful.

Arborists divide trees into three general groups, 1) shade, 2) evergreens, and 3) ornamental trees. The latter, of course, are usually specimen trees and planted primarily for their landscape effect or to soften an outside view. The flowers, foliage or fruit are the features that recommend such trees. It is noteworthy that many of our ornamental trees are in the small to medium-sized class and hence lend themselves to the small or average-sized home area. If you have a large well placed elm, oak, or maple on your home grounds consider yourself lucky. Take care of it. Such trees are very expensive to move in and require years to become established.

Ornamental varieties, however, are of a size which the average homeowner can easily acquire and often do the planting himself with the help of his neighbor. Their purpose is not shade but natural beauty. One tree may be enough, two may be too many. They require the ordinary care which the average homeowner can do on his day away from the office or shop if he is so inclined. When planting trees it should be remembered that nursery grown stock

is usually more successfully moved than trees dug from the wild.

From the many ornamental trees to select from the following are among the most desirable:

**Flowering Dogwood** (*Cornus floridum*). The Lord could have produced a more beautiful and attractive tree than the flowering dogwood but he didn't. It is the official tree of Westchester County, (N.Y.) where it grows in profusion. There are those who like the pink variety, while others prefer the more common white dogwood. The latter is much more hardy than the pink variety which may be injured during a severe cold winter. Some claim it harmonizes so perfectly with the landscape that it cannot be overplanted. This is indeed a great tribute to a small tree.

The reason the flowering dogwood is a universal favorite is due not only to its small size, which makes it possible to "fit in" with a limited lawn area, but its attractiveness at all seasons of the year. In spring its so-called "flowers" usually cover the entire crown of the tree before the leaves appear. In summer the foliage is a characteristic green turning later to a crimson or a mixture of the two. In autumn the red berries are the favored food of many birds. In winter its characteristic horizontal branches distinguish it from all trees. Alone, or in combination with other trees, the flowering dogwood is a favorite. Like all dogwoods it tolerates some shade. It has no serious insect enemies or diseases. A borer is sometimes found under the bark of trees which have been permitted to deteriorate. Even these can be controlled if proper precautions are tak-

en in time. The dogwood is not easily transplanted except when young, and even then should be moved only in early spring. A neutral to slightly acid soil seems to make it thrive.

The legend about the dogwood furnishing wood for the cross on which Christ was crucified is something you can believe if you want to. There are several other trees which are supposed to have furnished the material for this occasion, none of which however is native to Palestine.

**Flowering Crabapples.** There are many species and varieties of these beautiful trees, which are useful only for decorative planting since the fruit has no commercial value. They were originally introduced from Asia and our cultivated varieties of apples are direct descendants from these crabapples. The flowers vary from snowy-white to rose-pink and dark red. On many species they cover the entire branches before the leaves appear in the spring. Some flowers are of the single form and others of the double or semi-double variety. Many think the flowers are the most attractive ones found on trees. The fruit varies in size and color from a small pea-sized yellow, green or red pome with red cheeks to medium-sized apples. Even the shape and size of the leaves of the different species varies greatly. The fruit is very attractive to birds in the fall or winter months. Some of the flowers have a delicate violet scent while others are real fragrant.

There is such a great variety of these trees to choose from that no two persons will agree which are the best trees to select. The following are some which many people like:



**Arnold Crab** (*Malus arnoldiana*). A hybrid which originated in the Arnold Arboretum at Boston in 1883. It is a low spreading tree with a compact crown, seldom more than ten to 12 feet tall. The flowers are single form, pink which after a few days turns white, and droop gracefully in long stalked clusters. The fruit is yellow.

**Bechtel Crab** (*M. ioensis plena*). This tree was discovered near Staunton, Illinois, in 1850, and brought into cultivation by a nurseryman named Bechtel. It is a small bushy tree, sometimes thorny, with attractive foliage. The flowers are double, rose-pink, about two inches across, and have a delicate violet scent.

**Carmine Crab** (*M. atrosanguinea*). A beautiful lawn tree which sometimes grows to a height of 25 feet. The flowers are single form, deep carmine color, which early in May cover every twig and branch with blooms. The fruit is dark red.

**Cherry Crab** (*M. robusta*). This is a beautiful tree which blossoms early. The flowers are white and fragrant. The fruit is dark red and about an inch in diameter.

**Chinese Flowering Crab** (*M. specabilis*). This was the first of the Asiatic crabapples introduced into the western world, about 1780. It is a tall shrubby tree reaching the height of 25 to 30 feet. The flowers are pink, semi-double form, and fragrant. The fruit is pale yellow.

**Chinese Apple** (*M. prunifolia rinki*). A tree with upright growth reaching a height of 15 feet. The flowers are large, single form, and snowy-white. The fruit is also large, about 1½ inches in diameter, yellow to red, and remains on the tree for a long time. In China this tree is cultivated for its fruit.

**Japanese Flowering Crab** (*M. floribunda*). Usually a small tree, with a spreading head, which sometimes grows to a height of 25 feet. It is resistant to cold and drought. The

buds are bright pink in spring and contrast with the flowers which are pink at first but gradually fade white. The flowers are small, single in form and produced in profusion. The fruit is red and yellow, about the size of a pea.

**Parkman Crab** (*M. halliana parkmani*). This species rarely exceeds 15 feet in height. It is the least hardy of all the flowering crabs. The flowers are double form, bright rose-red, and borne on long slender stems. The fruit is red-purple.

**Redvein Crab** (*M. pumila Niedzwetzkyana*). A very striking tree in spring due to the reddish or purple tinge in the leaves, stem, buds, fruit, and even the bark. It is a variety which improves with age and is best after it is about ten years old. The flowers are of the single form type.

**Sargent Crab** (*M. sargentii*). The smallest of the crabapples, seldom attaining a height of over eight feet. Sometimes it is twice as broad as tall and looks more like a shrub than

## IT'S FUN CONFOUNDING THE EXPERTS

LOUIS Fabian Bachrach, the famous portrait photographer, is probably reflecting the attitude of many enterprising gardeners and tree growers when he says that half the fun of gardening is taking a chance on varieties not commonly sold in local nurseries. It is a real delight to Mr. Bachrach to confound the experts—in other words try something in your garden the experts say can't be done—and then watch it work.

Mr. Bachrach's delightful garden at West Newton, Mass., is living proof of experimentation that has paid off. A large clump of black bamboo (*Phyllostachys niger*) that he brought from South Carolina is thriving and spreading (with only a little protection in winter) in West Newton soil. Several specimens of bald cypress (*Taxodium distichum*) imported from southern swamplands are fairly hardy. A luxuriant yellow jasmine (*Jasminum nudiflorum*), planted on the south side of his house, blooms beautifully in West Newton in late winter. *Vinca major* brought back from Arizona in 1944 now has much larger leaves and flowers than common myrtle in Mr. Bachrach's garden and has spread so rapidly as to have become almost a weed. Native holly (*Ilex opaca*), Japanese holly (*I. crenata*) and Magnolia (*grandiflora*) are all growing and thriving in this West Newton garden—enough to confound experts who said that Magnolia, for example, is hardy only from Zone 5 (southern New Jersey) southward.

When Mr. Bachrach read of the discovery of the metasequoia tree in Mongolia a few years ago, he promptly investigated. He learned that there were some seeds to be had from the Arnold Arboretum. The young trees he raised from these seeds, first in his greenhouse and then in the coldframe, are now growing outdoors unprotected and are about six feet high.

When AMERICAN FORESTS first learned through the pages of the New York *Times* that Mr. Bachrach was having success with the Mongolia metasequoia it asked him if he had, by any chance, planted any of the *Sequoia sempervirens* seed that The American Forestry Association distributed in the nation a number of years ago.

Mr. Bachrach said that he had not happened to obtain any of this seed but that he was highly impressed by the growth of the Mongolia metasequoia and has already given away several trees raised from these seeds.

(Editor's Note—Because of this experience, suggests Troy Rodlun of the AFA staff, it would be interesting to get brief reports from AFA members on their success with the *Sequoia sempervirens* seed the Association distributed some years ago. This struck us as a good idea. Accordingly, AMERICAN FORESTS would be interested in receiving brief reports on the luck members have had with this seed. Once the reports are all in, the results will be published in the magazine.)

a tree. Suitable for a small lawn or a large rock-garden. Produces a profusion of single white flowers with yellow anthers. The fruit is dark red and hangs on the tree until nearly spring.

**Scheidecker Crab** (*M. scheideckeri*). This is a tree of the pyramidal type and attains a height of about 15 feet. The flowers are semi-double form, pale pink, produced in great profusion, and last a long time. The fruit is waxy yellow but of little landscape value.

**Siberian Crab** (*M. baccata*). This tree is very hardy. It has a pyramidal form. The flowers are single form and white. The fruit is red or yellow, and about the size of a cherry.

**Southern Crab** (*M. angustifolia*). This tree is native to the southern United States. It sometimes attains a height of 25 feet with an open and thorny crown. The leaves are slightly lobed. The flowers are single form, light pink, and the latest to bloom. The fruit is yellow-green.

**Tea Crab** (*M. theifera* or *M. baccata mandshurica*). A tree with a stiff, erect form, attaining a height of 15 feet. In the spring every branch is covered with fragrant rose-pink blossoms which gradually fade white. They are usually single form but sometimes semi-double. The fruit is greenish-yellow with red cheeks.

**Empress-Tree** (*Paulownia tomentosa*). Sometimes called Royal Paulownia since it was named in honor of Anna Paulowna, princess of the Netherlands, because she admired it so much. It grows well from New York to Florida and over to Texas. However, it is not hardy in northern United States. Usually a medium-sized tree with a round head. The leaves resemble those of the Catalpa. The flowers appear before the leaves; are tubular funnel-form, pale-violet with dark spots and yellow stripes inside. They occur in terminal panicles eight to ten inches tall and are very fragrant. This tree tolerates salt air and will grow near the ocean, but not in places where it is exposed to cold winds. It is practically free of common insects and diseases. A gorgeous tree when in bloom. To sit by its side with its fragrant purple flowers is certainly an enchanted evening.

**Cajeput-Tree** (*Mellaleuca leuca-dendron*). This is one of the outstanding ornamental trees of the South, especially in southern Florida. It is fast growing and sometimes reaches a height of 40 or 50 feet in a

(Turn to page 38)

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## CHRISTMAS TREES—NO PART TIME JOB

WITH THE atomic and more recently the hydrogen bomb hanging over their heads like a sword of Damocles, city folk in recent years have been casting covetous looks at abandoned farms as providential retreats "just in case." But their customary statement, "one can always make out on a farm" quickly becomes obsolete when urbanites discover: 1) that it requires a lot of know how and high-priced equipment to handle an efficient farm operation; 2) that all too often top soil on the abandoned farms they buy up has been washed into the nearest ocean.

Undismayed, the fledgling farm owner next decides that he will go in for Christmas tree farming and poultry. The chickens and the eggs, of course, have to wait until the day it becomes necessary to depart in haste or retire from urban surroundings. But the Christmas trees can be started right away—on weekends and vacations. New Yorkers, for example, have been heard to remark, "Christmas trees will grow on almost anything. All you have to do is sit back (in an absentee city apartment, of course) and watch them grow until harvest time."

This type of reasoning rankles a veteran Pennsylvania Christmas tree farmer by the name of M. C. Stewart, of R.D. 2, Homer City. "It just won't work," says Mr. Stewart with conviction. "Too many people, especially city people, have the idea that after planting you can walk away and forget Christmas trees for five or six years.

"The truth is," says Mr. Stewart, "that Christmas trees, like any other crop, have to be taken care of. If you hope to obtain a yield of good trees on 70 or 80 percent of your plantation, you must shear and shake those trees. And you have to do it at least five times in a five-year period with the operation becoming more time consuming on each successive round."

In addition to the task of caring for a growing crop of Christmas trees, professional tree farmers in Pennsylvania—they total 3000 in 51 of 67 counties—report other problems on the horizon. Supported by Christmas tree growers all over the country, the Pennsylvania Christmas Tree Growers Association in recent months has been working to secure the right of capital gains treatment of federal income taxes on Christmas trees. At present, proceeds from the sale of Christmas trees must be treated as ordinary income and are not regarded as timber for federal income tax purposes.

It is the contention of the Christmas tree farmers that a number of other products that enjoy favored tax treatment have less merit, in their judgment, than Christmas trees—which they regard as a long-term investment contributing to soil conservation, clean streams and flood control. This all adds up to public service. As such, the Christmas tree farmers feel they are entitled to the same consideration for tax purposes as other types of timber.

## Ornamental Trees

(From page 36)

few years. The branches have an upright intertwining growth which gives the tree a comparatively narrow head. Its silvery bark somewhat resembles that of the northern white birch. In the spring and the fall this tree covers itself with a profusion of white, bottlebrush blossoms, with a rare fragrance.

**Paul's Scarlet Thorn** (*Crataegus oxyacantha pauli*). This tree with its clusters of bright scarlet double flowers is one of the most ornamental trees in existence. It belongs to the Hawthorn or thornapple group which, with the exception of Paul's thorn, have white flowers and stiff crooked branches armed with sharp thorns or spines.

In the fall the leaves take on a brilliant color of orange and scarlet. The red berries are their chief winter characteristic and remain in good condition all winter, if they are not eaten by birds. All species of Hawthorns are hardy and grow in exposed locations, and in almost any type of soil. Easily transplanted. It is especially suited to the dooryard garden or places close to the house.

**Red Horsechestnut** (*Aesculus carnea*). This is a cross between the white flowering horsechestnut and the red flowering buckeye. It blooms early in summer when it is a very striking tree. Its dark green foliage makes a perfect background for the red flowers. The one requirement which this tree must have is an adequate water supply to prevent a prematurely brown foliage. If this tree is hemmed in on two sides with pavements it will not thrive, but on a lawn area with ample soil moisture and sunshine it is beautiful.

**Japanese Flowering Cherries.** These trees are world famous due to the ones planted in Washington, D. C., around the Tidal Basin. In Japan, their native region, they are held in special respect. The whole nation pays tribute to beauty at the cherry blossom festivals. The flowers vary from white, pink to rose-colored, and may be single or of the double form. Some are fragrant, others not. The fruit varies in size and color. To bring out their best effect they should be used with a background of evergreens as a contrast for the pink or white flowers in spring. Their form varies from pyramid to vase-shaped, while some

(Turn to page 40)



## Low-Cost motor graders with loaders used on construction and maintenance in North Central Forest Region

This Model D Motor Grader works in the Ottawa National Forest, handles maintenance of more than 115 miles of access roads and fire lanes, ditching, excavation for culverts and a variety of material handling jobs.

A substantial portion of the road and fire lane construction and maintenance in four of the National Forests of the North Central Forest Region is carried out with Allis-Chalmers Model D Motor Graders.

In most cases, each of these graders is assigned to more than 100 miles of access and travel roads in one or more ranger districts. Equipped with rear-end loaders, they are also used for loading gravel, lifting fallen trees, digging out embankment, moving rock, and handling other materials such as cinders and blacktop.

### Handles Variety of Work

These Model D's are stationed in the Ottawa, Superior, Nicolet, and Chippewa National Forests. In the Ottawa National Forest, having a gross area of 1,742,971 acres, the Model D is assigned to the Watersmeet Ranger District. Working from this headquarters station, the grader handles maintenance of more than 115 miles of essential access roads and fire lanes, also ditching, excavation for

major and small culverts and a wide variety of material handling.

### Has Lots of Faith in "D"

The operator of this machine travels from the Watersmeet Station to the grader and back each day by Forest Service truck. From the time he starts using the machine in the morning until he leaves it at the end of the day, he is alone with the Model D in the depths of the Ottawa National Forest.

"You've got to have a lot of faith in a machine to work forest roads," he said. "I've learned the Model D Motor Grader is a good machine and will do a lot of work. I often have to move a full load up a 25 percent grade with sharp curves. This Model D will do it. It is also surprising how this motor grader will take the rock conditions along the lanes and roads in this area. But what I really like most about the 'D' is the way she can load. That rear-end loader can handle a lot of material."

\* \* \*

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erating cost, Model D Graders stretch equipment budgets, so that several of these machines can be strategically spotted to multiply both the amount of work done and the area served. Their ability and versatility proved by thousands in service, Model D's now have even greater working ability through the dynamic new 50-hp POWER-CRATER engine.

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## Our Ornamental Trees

(From page 38)

are of the weeping type. They will thrive wherever the ordinary cherry grows. Among the most striking varieties are the following:

**Sargent's Cherry** (*Prunus serrulata "Sirotae"*). This is a very handsome tree, and the only pure white double-flowering cherry in cultivation in America. They are fragrant, about 1½ inches in diameter and occur in short-stemmed clusters of two to five. It is a hardy and long-lived tree with a pyramidal to round head.

**Oriental Cherry** (*P. serrulata rosa*). A double flowering, dark pink form of the Oriental cherry. There are many varieties of this species. Some have the slender columnar form of the Lombardy poplar while others are of the spreading type. Most make a vigorous growth. Some are suitable for formal plantings, others for small gardens. All are showy trees, especially when in bloom. The blossoms are fragrant, occur in clusters of two to four and are from 1½ to two inches in diameter. On some the foliage is green while on others a bronze-green.

**Spring Cherry** (*P. subhirtella*). This is a low-branched, shrubby tree with a short thick trunk and slender arching branches. It is the first to bloom in spring and produces innumerable clusters of small single, light pink flowers. The petals have a shallow notch at the apex. It is a slow-growing, long-lived tree.

There is a weeping variety of this tree created by grafting. It has long, slender, pendulous branches reaching nearly to the ground. Produces a profusion of single form, pink blossoms in early spring.

**Tokio Cherry** (*P. yedoensis*). This is the tree that borders the Tidal Basin in Washington, D. C. It has a broad spreading head. The buds are red. The flowers are single form, slightly fragrant, delicate pale pink, and occur in early spring in clusters of two to five, and so dense as to almost obscure the branches. The fruit is small and a shiny black. There is also a weeping variety of this tree with long slender and pendulous branches.

**Flowering Almond** (*P. triloba*). A small tree which may grow to a height of ten feet. The small, double, bright pink flowers cover every twig in spring before the leaves ap-

pear, making it the most striking feature on the landscape.

**European Mountain Ash** (*Sorbus aucuparia*). In Europe this is known as the "bird-berry-tree," which describes it very well. The enormous drooping clusters of orange-red berries are borne in great abundance from July until winter. It grows in any type of soil. Also resistant to salt spray injury. It is more resistant to attacks by borers than our native mountain ash. This tree thrives in full sunlight.

**Golden-Rain Tree** (*Koelreuteria paniculata*). Sometimes called "Pride-of-India," and China-tree. It seldom grows more than 30 feet in height and usually with a crooked and branched trunk and a wide spreading crown. It resists drought, hot winds, grows in moist soil, including alkaline locations. It is comparatively free from insect attacks and diseases. Also, hardy to southern New England states and adaptable to city conditions. Full sunlight is required for normal development. The flowers are brilliant yellow with orange-red markings at the base. They bloom in July and occur in loose, upright panicles, 15 inches tall, at the tips of the branches.

**Redbud** (*Cercis canadensis*). A small graceful tree reaching a height of 25 feet. It is the state tree of Oklahoma. Before the leaves appear in spring the branches are covered with clusters of small purplish-pink (or white) pea blossoms. It will endure heat, drought, and alkaline soil. They are a very satisfactory tree to plant in southern United States, and Dallas, Texas, is known as the "Redbud City." For the best landscape effect of this tree it should be planted with a heavy background, such as red cedar, larch, or dogwoods, in order to bring out the striking effect of the flowers in spring.

**Bigleaf Magnolia** (*Magnolia macrophylla*). A medium-sized southern tree which is hardy as far north as New York City. With its massive foliage and large flowers it is an impressive tree when in bloom. The leaves are 20 to 30 inches long, the largest simple leaves of any tree. The flowers are white with a little purple at the base, ten to 12 inches across, and fragrant. The seeds are produced in fragrant cones. It re-

quires moist and fertile soil, but even then growth is slow.

**Star Magnolia** (*M. stellata*). This is a small tree with a bushy head. The flowers are star-shaped and of pure dazzling white, three inches across, with narrow petals, fragrant, and bloom before the leaves. A very successful tree north of the Ohio Valley and southern New England states.

**Saucer Magnolia** (*M. Soulangeana*). A hybrid first produced near Paris, France. It is a small tree with many trunks, ten to 15 feet high. The cup-shaped flowers appear in spring before the foliage, are slightly fragrant, six to ten inches across, with various shades from white to rose or purple, and hardy in northern gardens. It is the most common magnolia under cultivation. Many varieties of this tree are propagated in nurseries. The differences are mainly in the color of the flowers and the time of blooming.

**Sourwood** (*Oxydendrum arboreum*). Sometimes called Sorrel-tree. A graceful tree with a narrow head, usually 20 to 25 feet tall. Makes slow growth and prefers an acid soil. The foliage turns a brilliant scarlet in the fall. The small, fragrant, white lily-of-the-valley, bell-shaped flowers appear in July in long compound clusters. A whole tree of lilies-of-the-valley seems almost too good to be true. This tree may be used for specimen planting or as a background for shrubbery. It is an accent tree and should be planted more than it is, especially for lawn or garden. The leaves have a strong bitter taste which accounts for its common name. In winter the twigs turn a rich red color that accentuates the slightly weeping branches against the gray wintry sky. It is hardy and will grow on the shady side of the house, if a little morning sun is available.

**Golden-Chain** (*Laburnum alpinum*). This is also referred to as the Scotch Laburnum. It is a small tree which is hardy as far north as New York City and over to Michigan and Wisconsin. The pendulous golden-chain of flowers in spring, against the dark green background of the foliage is one of the delights in spring. Its size and narrow shape makes it an ideal tree for the small garden or lawn.

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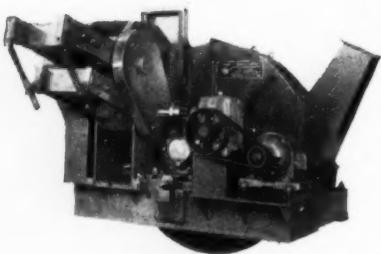
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of the inside of a wave are the sugar maples, I have discovered.

**April 26.** Out Bridport-way. In moist hollows the yellow adder tongue, on the rocks Dutchman's breeches, hepaticas and white blood-root often growing all together, with curly ferns and wild ginger unfolding. Shadbush blossoms amid the bare wood, and the small red leaves of the cherry.

**April 28.** Warmer today, with a strong wind. I walked to Three Mile bridge, listening to the dreamy sadness of the meadow larks and the gurgling watery sound of the black-birds as I went. For a long time I watched the tree swallows, who were making a tremendous fuss around the holes of a dead ash tree beside the water, the wind sending them up into blue sky-like kites, whence they at once descended to finish the argument. Water blue as the gulf stream lies either side of the way amid green grass, and it is amusing to have the dusty road watched so close by the eyes of frogs.

**April 30.** To Pulp Mill bridge. The woods are beginning to take on their exquisite shades of amber, rose-red and misty green. Early everlasting whitens the grass. Wherever you walk you step into sky.

**May 1.** Rose at sun-up and fared forth to Battell wood in wool dress, sweater and shagmore coat to gather flowers for May baskets. Marsh marigolds blossoming under the willows. The fields are white with frost. The first bobolink of the year flies over the frosted field singing ecstatically, bless his black and white head! Trillium grows fresh and fair within the wood. I gathered a bouquet, adding some trout lily leaves to line the baskets with, and a spray of apple blossoms from the wood's edge just breaking out of bud. Wishing to share my joy at this latter fact with someone, I tell the man sweeping the Inn sidewalk, who responds in true Vermont fashion: "It was 36° last night—they're out just in time to be nipped"—probably true but not exhilarating for a bright spring morning.

**May 4.** Heading south through the green-gold landscape, yellow with dandelions and green with grass and the beginning foliage I came out of a sort of sun-cocoon to see a graceful

## Springtime in Middlebury

(From page 26)

silent little dog descend the upland, moving toward the road. When he saw me he changed his mind and turned tail—and such a tail—a brush! Leisurely and with grace the little fox started back upon his track, stopping from time to time and turning to look at me. He moved in supple fashion, gliding along, his motion all of a piece, more like a snake's than a dog's. I lost him where the ground dipped down again. Robert and David found a fox den with bones around it up there where the marble ledges outcrop—perhaps his den, who knows? The flooded meadows with their bright green edge of grass reflect the purple mountains.

**May 7.** To the Ledges with Mary Dutton, as the sun sets. Climbed over the tumble-down stone wall green with moss which divides a forest floor of spring beauty from a forest floor of trillium. Spleenwort and walking fern upon the rocks, and many of the annuals uncoiling. A whole seminary of Jack-in-the-pulpits growing amid the maidenhair. It is exquisite to look through the clear green twilight at hollows of waving trillium far off, deep in the woods.

The shagbark hickory is getting his crimson collar.

**May 8.** Gray and still. Dr. Hitchcock has discovered a snipe out in the swamp toward East Middlebury. At dusk a small group of us silently gathered. The clouds rolling in made it extremely unlikely we would see the bird, nor did we. However, after we had stood around talking low for some five minutes we heard the snipe, an undulatory sound, a sort of whickering, that came from the sky to the east, then sounded again from another point as he made his circuit. As we patiently waited in the cold gray air we heard him from each compass point in turn. He had circled the horizon, and was back where he started. An ecstatic experience, this sound of an unseen bird out of the cloudy heaven.

**May 11.** To Bread Loaf with Janet Kingsley. Snow in the hollows here and there. Amid this wintry landscape on the trail to Pleiad we found bright yellow violets marked with brown, wide open. It seemed like an Alpine pasture. Spring up here has barely started, the height too

high for birds to have reached it yet, the sun setting in the songless forest, the sound of peepers, the silent passing of the deer.

**May 13.** Crossing Three-Mile bridge to turn north I detoured into the Cornwall swamp. These watery stretches of alder and arum, this emerald-green forest built upon quaking earth, what a fascination it holds! The royal fern is unfolding, reddish in color. I almost fell into water the color of iodine trying to pick a wild calla, a cunning miniature of the cultivated calla lily, with long heart-shaped leaves. A world to itself out here, a waving watery world secure in all its green fastnesses from the intrusion of the land.

**May 15.** The green came in the hills today. Mary Williams and I walked to the Morgan Horse Farm after dinner, where 11 fawn-colored colts pastured beside their 11 dark mamas. The soft violence of the wind blew fragrance of lilac, of grape, of wild cherry in successive gusts against us, as we came. The colts are extremely charming, flexible and flowing in their movements more like deer than adult *Equis*. One of them scratched his ear with his hind hoof, a feat of agility he will not equal, I warrant, when he becomes a grown horse.

**May 16.** For the first time this season wind rustles through the green leaves. This is what we have needed—the sound of the wind swishing through the green heads of trees. The wild cherry trees are lovely now, erect in groups with their white flowering, and the apple orchards are opening their crimson buds. Everything that can blossom is blossoming now. Out to the Ledges, where spring flowers bloom in all their glory—saxifrage and columbine, mitrewort, wild ginger with its fine satiny leaf and little red devils biting the ground, dwarf ginseng, early meadow rue and wood betony, violets and fringed polygala. Farther in under the row of hemlocks, the showy Orchis. The day of *Trillium grandiflorum*, waving its white flags by the hundreds from the rocky ledges above. New tips and crimson cones upon the spruce. Oaks are sprouting their incredibly fragile leaves of green gold.

On the way back the redwing gives a squawk as I pass the marsh, thereby revealing the location of the nest which I would otherwise have missed. I cannot see that instinct does them any more good than reason does us.

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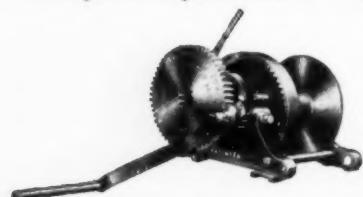
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**May 21.** Up to Ripton with the mail-stage. I gathered on the run—for the mosquitoes are the size of dragons—whatever flowers edged the rocks—twisted stalk, hobble bush, pinxter, painted trillium, and a few of those early sub-Alpine yellow violets that pave the way to Pleiad before anything else is blossoming. Since the main pleasure of the woods lies in the chance for loafing and meditation I did not enjoy my speeded-up bouquet. The trip was worth it, though, for the scarlet tanager in the depth of the light green woods. I saw him at a distance and thought: "Red—what blossom is red now?" then quite near to, the clean-cut red of the bird, the clean-cut green of the woods.

**May 25.** Almost at dark go down to the old elm above the creek to watch the rose-breasted grosbeak. He is taking his turn on the nest, sitting straight up, his head visible above it, and a little of the rose of his breast. He seems a bit restless in the role of sitter, unlike his mate who settles down into it when her turn comes so her head is invisible and her tail looks in silhouette against the darkening sky like a twig sticking out. Presently he gave a sort of mew, which was answered by her from a nearby tree. Without much waiting he impatiently gave another, whereupon she flew over and they changed guard. He is as conspicuous as a full-blown rose up there, and how the species can have escaped destruction all this time with such lack of protective coloring I can't imagine.

**May 26.** Impersonating the south wind I have been knocking the yellow pollen in clouds out of the flowers of the pine.

**May 28.** A perfect jewel of a day, great cumuli the color of dawn on the horizon, with blue sky above. Take the Creek walk. The inland pools have given place to long green grass where for three miles bobolinks sing more madly and merrily than elsewhere. When I leave the road for a meadow they rise in joyful agitation round me. I stand like an island bounded by bobolinks. The prince of birds. He always finishes his burst of rapid song with a "Whee," as if his own incredible performance had knocked him out for the time being. Canada anemones grow under the shadow of the alder bushes. *Zizia aurea* and barren strawberry make the roadside yellow, and blue-eyed grass is everywhere. Red streaks of sorrel in the fields. Yellow butterflies flew ahead of me, though not in great number. Like the bluebird they have never

learned the trick of flying back of a person, or even across. Here and there a jade-green beetle or a red spider added their dash of color. Three poplar trees were down across the road that I crawled under, inhaling the fragrance as I went. Mosquitoes seemed scarce and sluggish. The burning sun discouraged them, perhaps. On the last lap before the covered bridge I saw an oriole.

**May 29.** High time I stole those lilacs from the Weybridge cellar hole, if I want to use them for decoration tomorrow. As I prolonged my walk for the purpose I thought soberly that in the matter of lilacs I am in the dispossessed class. All the teachers are having lilacs brought to them this time of year, every sort of hovel has a bush the size of a tree growing alongside. I climbed the pasture bar fence, walking over the muddy hummocks of an alfalfa field to the cellar hole. Here the ground became more irregular still. All that is left of the old garden—day lily leaves, patches of purple flowering mint and white scrofularia—bloom around the lilacs, themselves hidden in masses of chokecherry. And so high in air! Nothing but the winds of heaven have touched these flowers. I trampled the day lily leaves as I reached for them. I pulled down a few of the white, which always tower above the purple, I think, and found the purple lower down, the color I like best, with opening buds at the tip. The fragrant blossoms once in hand I decided there was something to be said for free enterprise, after all.

**May 30.** Walk to Battell wood at sunset in a last strenuous illogical attempt to find the trillium. It is as though Nature had substituted another stage setting. Little faces of flowers look out of the darkening woods, to be sure, but they are white strawberry blossom, yellow barren strawberry and the powdery *Actaea*, not one trillium. The paths to the wood are now blocked with trees in full foliage.

**May 31.** You can no longer tell the time on the town clock because of the leaves. The brook bed at Weybridge cross-road marked out by marsh marigolds is now marked out by purple iris. The smooth green landscape looks more ethereal though not less young for the seeded heads of dandelion scattered through the fields. I have seen a dragonfly, and the circles in the shadow of the maple on the pavement. Yellow goat's beard blossoms down by the station. We are just one jump ahead of summer, and that is all.

## The Petrified Forest

(From page 17)

the appearance of their petrified remains today.

For a long period these tree trunks, and the sedimentary material, continued to flow in and pile up, finally reaching a depth of about 400 feet. Today we call this the Chinle formation. Surprisingly enough, this formation and its fossils are almost exactly like those back of the Palisades, a rocky escarpment on the opposite side of the Hudson River, facing New York City.

As millions of years passed, vast geological changes took place, and the land mass of this part of the North American continent gradually subsided until, during the next geological age (the Cretaceous), a long arm of the sea reached in and flooded the country. Now far below the floor of the sea, the Chinle formation containing our future Petrified Forest, was eventually under some 3000 feet of soil and marine deposits.

Then, a mere 60,000,000 years ago,

the uplift which resulted in the formation of our Rocky Mountains started, and continued until the region which is now Arizona, was far above the level of the sea.

The final process, which brought the Petrified Forest out into the open, was erosion, which first washed away the 3000 feet of overburden, and then started on the 400 feet of the Chinle formation itself. Today about 100 feet of this has been removed, and every year the rains wash away a few more tons. The volcanic ash in which the trees were embedded has now decomposed into a bluish, clay-like material bentonite, which quickly turns to mud when wet, and is easily dissolved by heavy rains.

As more and more of the bentonite is removed, more petrified logs are exposed, so that those which visitors now see thickly covering the ground were originally scattered through the top 100 feet of material. This continued settling of the logs, as the

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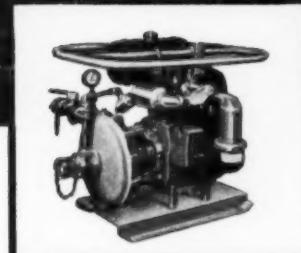


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support under them is washed away, is responsible for the extraordinary manner in which they are broken up. Mostly, they are in fairly regular lengths, and seem to have been cut with a saw. Actually, they have cracked apart of their own accord.

Petrified wood is found all over the world (centuries ago in England it was called "stone wood"), but always it has resulted from precisely the right conditions. The wood must be buried in wet soil containing volcanic silica ash, and it must be so thoroughly covered that there can be no oxidization.

The petrification process itself starts with the infiltration of mineral-bearing water into all the cells of the wood. In the course of millions of years, all the microscopic spaces in the wood became filled with these minerals, so that in time only the thin walls of the cells remained. Some have suggested this process might be much like that of pouring concrete into a series of forms, which would account for the fact that petrified wood is an exact replica of the original, living wood, including annual rings, knots and structural details. Eventually, it is estimated, petrified wood is 98 percent mineral, and only two percent wood tissue.

Most of the logs in our Petrified Forest in Arizona are, or were, araucarian pines—which became extinct in North America a long time ago. However, some very similar trees have turned up in other parts of the world. There are, for example, the monkey puzzle tree (*imbricata*), a native of Chili, the bunya-bunya tree (*Araucaria bidwillii*) found in Australia, and the Norfolk Island pine, found on a tiny island in the South Pacific. The monkey puzzle tree has been imported to California where it now flourishes all along the coast. One large planting is adjacent to the Santa Anita race-track.

Obviously, all the logs which were floated into the area of the Petrified Forest are lying flat, or nearly so, on the ground—although a few petrified stumps with roots have been found standing where they grew, obviously the remains of local trees which also became petrified.

Nevertheless, about a hundred years ago, when news of a "petrified forest" reached the east, some fantastic stories grew up. Nobody is sure just where these stories started—maybe some early guides or trappers, who certainly told plenty of tall ones, were responsible. Anyway,

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a lot of dudes were lured to the Arizona Territory expecting to see standing forests of great stone trees with stone branches and leaves on which were sitting "petrified birds singing petrified songs." Maybe dictionaries weren't as common then as now.

The earliest written report mentioning Arizona's Petrified Forest was made in 1851 by a Lt. Sitgreaves of the U.S. Army who was exploring the Southwest. Then in 1853, Lt. A. W. Whipple conducting a similar expedition, camped nearby and made a fuller report. However, it was not until the Santa Fe Railroad completed its line in the 1880's, that it began to get visitors in any number.

Unfortunately most people in those days seemed to be interested chiefly in souvenirs, and it has been estimated that in the early days they carried away the equivalent of several boxcar loads—in their pockets, in suitcases, in sacks, and in wagons. To find especially good pieces, some collectors resorted to dynamite to blast the logs open.

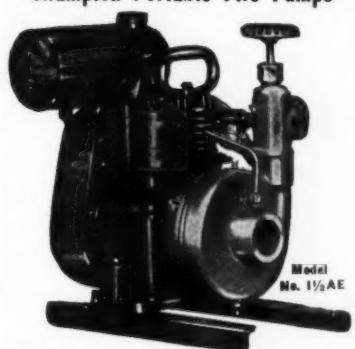
Some visitors simply wanted souvenirs for themselves, but dealers from the east came looking for great quantities of specimens.

Petrified wood is quartz agate, and if the log was hollow, it often contains quartz or amethyst crystals—and always, it is beautifully colored. Iron in the surrounding soil has produced striking red and yellow markings; manganese, blue and black markings. In recent years petrified wood in other parts of the west have been found to contain caronite (uranium ore) and are of course in great demand by a different kind of collector.

By the 1890's somebody got the idea that petrified wood would make a dandy abrasive—among other things, a coating for sandpaper. Accordingly, stamping machinery was imported, and plans were made to reduce these fossil trees to dust.

Not all were indifferent to the fate of these priceless specimens, however, and by 1900 citizens in the Arizona Territory as well as scientists all over the world, were concerned. Finally, a petition was sent to Congress for help in protecting the Petrified Forest, and in time it passed the Antiquities Act, which enabled President Theodore Roosevelt to issue a proclamation in 1906 establishing the Petrified Forest National Monument, "for the enjoyment of the people."

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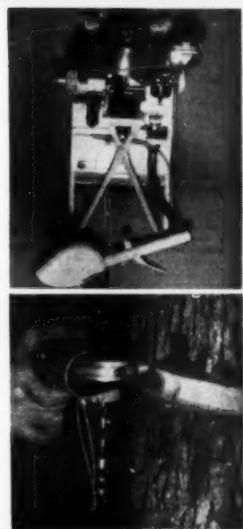
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## Where AFA Stands

(From page 8)

and ably expressed. Also, on page 96 of the printed hearings on H.R. 1972 you supplied figures (Tables II and III) on use of the public-use areas and funds available from 1948 to 1953. We cannot, however, find in the testimony an answer to the question raised by Congressman Cooley (page 99) and others of your Committee (elsewhere in the record) ". . . Has anybody, to your knowledge, made any estimates as to the costs which would be entailed in the event we started out to provide adequate facilities in all these parks and forest areas? . . ." No doubt the committee has received this information privately, but we should like to underline the statement made by Mr. Edward P. Cliff, Assistant Chief, Forest Service—in charge of National Forest Administration—in answer to similar questions before the House Appropriations Subcommittee (Hearings before the Subcommittee of the Committee on Appropriations House of Representa-

recreation-use job on the National Forests). Additional capital investments needed for recreation area improvements and facilities just to take care of *present* (as of 1952) use (not accounting for the fact that use has doubled since 1946—the first post-war year in which use equalled last prewar year—and has been increasing at an average of more than ten percent per year) are more than 24 million dollars (seven million to provide satisfactory facilities for sanitation, fire prevention, and public safety and to put all essential *existing* public-use areas and facilities in safe and sanitary condition; 17 million to expand the capacity of existing areas and to construct new areas necessary to accommodate *present* in a safe and satisfactory manner). Once this program has been completed, the annual cost of maintenance and operation is estimated at three and a quarter million dollars for the 1952 use level. Costs will rise, however, with increased use, so that if use

**BACK ISSUES NEEDED**—To complete its file of *American Forests* started in 1899, the Forestry School at Louisiana Polytechnic Institute needs Volume 1, *The New Jersey Forester* (1895) and *The Forester*, Volume 3 (1897), Volume 4 (1898) and Volume 7 (1901). If any readers would be willing to donate or sell these volumes to complete the Institute's file, please address replies to The American Forestry Association, 919 Seventeenth Street, N.W., Washington 6, D.C.

tives, 83d Congress, 1st Session on Department of Agriculture Appropriations for 1954—Part 3: pages 1284-1293) in connection with the 1954 budget. Mr. Cliff (pages 1287 and 1289) gave data by years and regions on visits to National Forests from 1941 through 1952 (page 1288) and reported results of a survey to determine funds needed by regions for the operation, maintenance, rehabilitation, and expansion of National Forest public-use areas (page 1291).

It is shown that annual requirements for operation and maintenance of *existing* recreation areas and facilities are over two and three-quarters million dollars (one million for sanitation, cleanup, garbage disposal, fire prevention and on-the-ground supervision at existing recreation areas; one and a quarter million for maintenance of improvements and facilities at existing recreation areas; and one-half million for general supervision, planning and administration of the whole

continues to expand at the rate of the past five years, it can be estimated that by the end of nine years (which it would take to bring and maintain facilities and services to a standard adequate for the 1952 use level provided the maximum of five and a half million dollars authorized by H.R. 8225 were appropriated annually) the annual cost of proper maintenance and operation may well be in excess of the authorization contemplated by this bill. In any event this authorization is quite properly conservative and there should be no fear that it is in excess of urgent needs.

As other witnesses so ably brought out in the hearings before your Committee on H.R. 1972 and similar bills, the need is critical and immediate drastic action is required for the very safety and health of our people. The American Forestry Association strongly endorses H.R. 8225 and urges the Congress to take speedy action to enact it into law during this session.

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## Hog Fishing in Louisiana

(From page 30)

an oak tree in Wayne County, Mississippi in 1948 for impounding hogs. In strict accordance with the state laws, Ames impounded 11 hogs which the owner refused to claim. When Ames advertised them for sale, the owner filed charges against him in the justice of peace court and a trial was held out in the open just off Highway 63, for the benefit of all citizens. Although he knew he had the state law on his side, the ranger couldn't help but draw a sigh of relief when, after three hours of arguing, the hog owner agreed to pay for the hogs. The trial attracted as many people as would a murder trial in Chicago.

And emotions of the people are not the only elements which will deter solution of the hog problem after the law is passed. There are

thousands of the hairy creatures roaming the woods and it will take many a hog hunt before they are all impounded and separated out to their rightful owners. Anyone who doesn't believe it's an almost never-ending task should ask Charlie Lewis of Crosby Chemicals. He fenced 10,000 acres, then set about rounding up the hogs inside of the fences. After a year and untold hog hunts when he figured he had every hog in Beauregard Parish out of the area, an old sow with a fresh litter of pigs meandered across the field, nudged a few pine seedlings for a moment, then went on her way.

"That's the trouble with fences," Lewis says, "you can't tell whether you're fencing them out or fencing them in."

## The National Arboretum

(From page 14)

of trees and shrubs in what is largely a natural setting.

What of the future? Growing trees is slow work, so Dr. Skinner, a graduate of Cornell and a former member of the staffs of the Morris and the Arnold arboreta, believes that time alone will provide much of the answer.

Completion of the physical equipment is important, but almost equally so is continuation of the planting

program. Breeding projects and basic horticultural research take money as well as time. Results of the latter have been made available to those interested. Morrison's Glenn Dale azaleas, for instance, are becoming better known and more popular each year. A newly developed pepperbush, Clethra pink spire, is now being distributed to nurserymen through the Plant Introduction Garden, at Glenn Dale, Md. New hybrid maples, developed by the Arboretum for street planting, have found favor in Cleveland, Ohio, and other cities. Hybrid evergreen magnolias are being propagated for hardiness testing farther north.

The ultimate objective of the National Arboretum, according to Dr. Skinner, is the successful completion of programs devoted to the production of better, tougher and hardier landscape and forest subjects. Extra dividends will be more colorful and more pleasant gardens, parks, boulevards and riversides throughout the country. For all this the National Arboretum hopes to serve as a well-spring and proving ground, working in conjunction with other arboreta and horticultural groups.

## New Chestnut Reported

Ever since our native American chestnut started to die from the blight (about 1904) sprouts have been coming up from the old stumps, and some of them have grown to eight or ten inches in trunk diameter before becoming infected. Nuts borne on these sprouts have been distributed, presumably by squirrels, and seedling trees have thus begun to appear again. Few of the seedlings ever reach six inches, because of the blight.

Last October while in the vicinity of Caledonia, Houston County, Minnesota—the southeastern county of the state—Mr. F. S. Reese of Owings Mills, Maryland, came upon plantings of American chestnut, located on three adjoining farms, on a ridge about 1000 feet above sea level. Some of the leaves, up to 8 inches in length, and the one-half pint of nuts which he gathered, as well as the general growth habit of the trees, were all characteristic of the native American chestnut.

Mr. Reese stated that "In one of the plantings there were 21 trees of various sizes. The largest tree (defective) was over four feet in diameter. The trees are not as big and thrifty looking as the chestnut trees of my boyhood in Maryland. The rainfall here is about 30 inches a year."

Upon inquiry as to the origin of these trees, some of the older residents on nearby farms stated that "some of the larger trees were of good size when they were boys, 60 years ago."

While the Division of Forest Pathology of the U. S. Department of Agriculture is greatly interested in finding new sources of American chestnut for pollen to be used in crossing with their most promising blight-resistant Asiatic chestnuts, they believe that attempts in propagating seed from such a source would be unprofitable. The seedlings would prove to be as susceptible to the blight as our now killed stands of the East.



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## Breaking Nature's Code

(From page 22)

Crown Zellerbach Corporation, long a believer in the airplane and helicopter as a valuable tool of forestry, gave full backing to Richen and probably laid out the original formula of action. The same holds true for C. D. Weyerhaeuser, manager of lands for Weyerhaeuser. From N. S. Rogers, former Oregon state forester, now deceased, and George Spaur, present forester, the young Oregon professionals have been given a free hand, backed vigorously by a farsighted nine-man state forestry board.

The state of Oregon reports some very satisfactory results, with as many as 800 seedlings per acre on favorable north slopes, and even 200 seedlings on hot south and west slopes. Said R. M. Kallander, "On sites adaptable to aerial seeding under suitable spring and summer moisture conditions, one can expect to obtain results similar to those of hand planting."

Results from direct seeding of some 3300 acres by the U.S. Forest Service disclose some interesting oddities. Rindt reports that 1000 acres of aerial seeding of pine in the Fremont National Forest was a failure. Some creatures, probably birds, shelled the seeds where they fell. Direct aerial seeding of some 1300 acres of spruce and other seeds following the Forks fire on the Olympic National Forest is about 50 percent effective and about half the area will be flown again this year. Results from 1000 acres flown near Sardine Creek on the Willamette National Forest are good on north and east slopes, although no formal survey has been made.

Lee Hunt, BLM forester, reports encouraging results with 480 trees per acre on north slopes in first growing season with a pickup from delayed germination the second year, but poorer results on south and west exposures.

The reports of Crown Zellerbach's Richen and Schroeder indicate the limitations of aerial seeding. They say: "Some of our areas are definitely a success, some are definitely failures. We are learning to seed only where conditions — bare soil, moisture, slope, rodent controls, ground cover, site, soil capacity—are favorable. Helicopter seeding is definitely a tool of reforestation. We'll continue to use it wherever there is a proper area without seed source."

"In our judgment," the two continued, "we are getting more than our money's worth from the helicopter seeding but realize it isn't any cure-all."

Foresters for Roaring River Tree Farm, Booth Kelly Lumber Company, St. Paul and Tacoma Lumber Company, Hill Interests, Willamette Valley Lumber Company, Milwaukee Land Company, Oregon Pulp and Paper Company, Valsetz Lumber Company and the Weyerhaeuser Timber Company report varied results. In most cases these were small seedlings from 29 to 400 acres and the problem of baiting a sufficiently large buffer strip around the seeding area presented difficulties. However, results were generally good on north slopes and even good on some of the south and west slopes.

The state of Oregon, with 170,000 nonstocked acres in the Tillamook Burn alone, looks on the aerial seeding development as one of the brightest lights in the forestry heaven in many a year.

A further idea of the success of the Oregon state aerial seeding projects is gained from the latest survey figures. One unit seeded in 1949 with one-third pound of seed shows 415 Douglasfir seedlings per acre. Where a half pound was used per acre on another area in 1950, 360 Douglasfir seedlings were found, and the results were low because of dry spring and summer in 1951. On two other units aerially flown in 1951 and where one-half pound of seed was used, germination of Douglasfir seedlings was 800 (best results

so far) and 495 in an area burned in April of that year.

Aerial seeding has influenced several collateral developments which may well in the long run be as valuable as the original invention. Crown Zellerbach has been doing some baiting of rodents to give Nature a hand where seed sources are limited. Two areas of 857 and 140 acres were selectively logged in 1945, but the residual stand was so badly wind-blown that the entire areas were clearcut in 1950. Adjoining natural seed sources were scarce and seed supply very limited, so the area was baited to kill the rodents and save the few available seeds. Surveys show three times as many year old seedlings on the area baited as on similar areas unbaited.

Another companion development following the increasing success of direct seeding with the flying egg-beater may be applied on many freshly logged lands where owners don't feel they can wait the five to ten years often necessary for natural restocking to come back in on an area. In the case of pulp company ownerships where the growing cycle is generally about 60 years, but may be as low as 45 years on some good sites, from one-fourth to one-fifth of the growing capacity of the land is lost by this lag.

There would be no delay while waiting for a good seed year for man could make every year a year of bounty. Good seed years generally occur once every seven years, and there has been a virtual failure in the Douglasfir region the last five years and most aerial seeding has been postponed this year for lack of seeds and even the Forest Industries Nursery at Nisqually and the Oregon state nursery at Corvallis are feeling the pinch and can see the bottom of the seed barrels in their cold storage vaults.

Man has one advantage over Nature in all this direct seeding business. He can select the seeds he plants. The policy now is to take seeds only from the best stands. Man might well develop a super race of trees by this more careful selection.

A cooperative research project was begun by Don Spencer, Denver U. S. Wildlife Research Laboratory and the Oregon State Forestry Department. The objective of the study was to find a poison or repellent which could be applied to the tree seed without killing it. Don Spencer prepared many candidate chemicals for testing by research foresters and by the Oregon State College Seed

Testing Laboratory. All the preparations killed the seeds except tetramethylene-disulpho-tetramine.

"Tetramine," as it has been nicknamed, has to be dissolved in acetone before it is applied. It kills many of the mice and apparently "trains" others to avoid it. Seeds treated with the acetone and tetramine don't do at all well in laboratory tests. On forest soils, however, they produce about 75 percent as many seedlings as untreated seeds. Tetramine is a by-product of the German dye industry.

By the fall of 1951 the tetramine treatment appeared very promising. Accordingly a large scale cooperative project was begun by the Denver Laboratory of the Wildlife Service, the U. S. Forest Service Experiment Station, the Oregon State Forestry Department, and the state of Washington.

In the fall of 1951 the BLM started extensive experiments with tetramine under the direction of Lee Hunt. The results of these experiments also appear extremely favorable.

God certainly is getting a mighty big helping hand in his constant effort to put a greening cover over this Northwest country.

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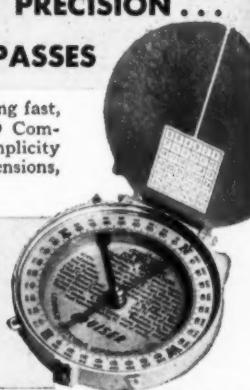
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Local milling and logging facilities are inadequate in some areas to log and manufacture the volumes needed to meet beetle control objectives. In other areas logs may be purchased from established operators. Stumpage prices have been set to expedite logging.

The total of sale deposits, including stumpage and slash disposal, averages \$3.40 per M board feet for infested spruce. The location, volumes and number of sales are listed below. Advertisement data or other information may be obtained by writing to the Forest Supervisor at the indicated locations.

**Kootenai National Forest** —34 sales—222 million board feet—Libby, Montana

**Kaniksu National Forest** —13 sales—62 million board feet—Sandpoint, Idaho

**Flathead National Forest** —18 sales—120 million board feet—Kalispell, Montana

**Clearwater National Forest** —2 sales—30 million board feet—Orofino, Idaho

**Lolo National Forest** —11 sales—60 million board feet—Missoula, Montana

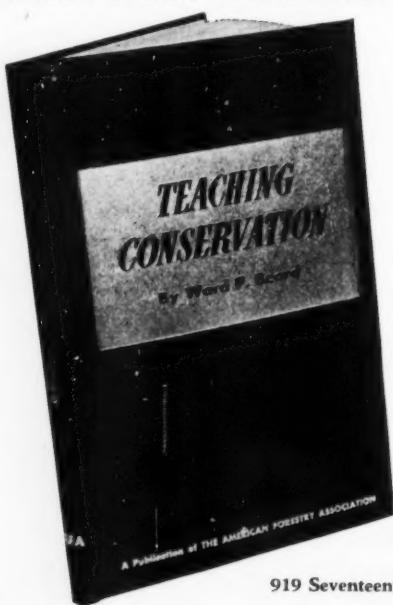
**St. Joe National Forest** —4 sales—53 million board feet—St. Maries, Idaho

**Coeur d'Alene National Forest** —4 sales—21 million board feet—Coeur d'Alene, Idaho

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## C and O Walkathon

(From page 19)

Southworth. They were met at the end of the hike by Interior Secretary Douglas McKay.

Reporting to their readers following the hike, Estabrook and Pusey said that while there are a number of scenic sectors along the canal where a parkway would do little harm, that they also believed that many semi-wilderness stretches should not be disturbed. They advocated that a National Park Service plan to build a parkway be "substantially modified" to avoid encroachment on the best of these natural areas and to preserve as much as possible of the towpath and canal bed. Stress should be placed on developing picnic grounds as well as access roads into the natural areas and the canal itself ought to be restored as a canoe way where feasible, they said.

Accepting with good grace what amounted to at least a partial triumph, Justice Douglas said, "I felt that anybody who'd walk this towpath and see its beauties in the raw would never want to turn it into a highway." Meeting his friendly adversaries part of the way, he added, "I am in favor of access roads and outdoor shelters along the canal to entice more city folks into the wilderness."

## Trumpeters

(From page 27)

suddenly going through the top of the roof did not appeal to their hostess.

"I hope they stay forever," Mrs. Colwell said fondly one day after she and her husband had been discussing the birds' latest behavior. But it was not to be. On the first day of February, as if by pre-arranged signal, the birds arose at five o'clock in the morning and circling the house twice in final salute, set their course to the north. They were soon lost to view in the whiteness of the vast sky.

It was a lonesome day at the Colwell home. But as they finally agreed, it had been a fascinating visit and perhaps the trumpeters will pass the word along to their friends that the latchstring is always out for their kind at the Colwell residence.

## Man With a Bow

(From page 15)

full instructions for making a real bow and arrow. So he went to work, with all the pains characterizing the true woodworking. The finished job measured six feet, and had a drawing weight of 100 pounds! (A hunting bow designed for a strong man has a drawing weight of 40 to 65 pounds.) It took a deal of whittling and scraping to bring the thing down to size but he did it and entered the tournament which had sparked his interest at the beginning. In a field of 20 archers he came out next to the bottom but that did not stop him. The virus was working.

From bow to bow and from tournament to tournament he progressed. He made bows for others and he organized groups for target and range practice. Eventually there was Ben Pearson, Incorporated, and the great plant at Pine Bluff which turns out some 4500 bows a day and other items in proportion. Simultaneously there has been a growing appreciation of archery among sportsmen.

This dyed-in-the-wool bowyer never ceases to strive for the improvement of his product. Many woods have been discarded, the perfect A bow must be made from a stave that hasn't a flaw. After all seconds have been discarded the perfect staves must be cured, turned, and tillered with infinite care. One scrape too many could be disastrous.

In the days of Robin Hood and Little John, yew was a favorite wood of the bowyer and it is still hard to beat but most of the Ben Pearson bows are now made from lemonwood or native hickory. The former is shipped from Cuba and has no connection with cooling drinks. It is an evergreen hardwood, tougher than lancewood and harder than hickory. It is shipped green and cured at the plant. Second-growth hickory is straight-grained and has an elasticity combined with hardness which makes it invaluable to the bowyer.

For arrows nothing is better than Port Orford Cedar obtained in the Coos Bay country of the Pacific Northwest. Like the bows, arrows are made from carefully selected staves and each individual shaft is spine-tested with mechanical accuracy so that it may be exactly

matched to the weight of the bow from which it is to be shot.

One of the most interesting and colorful operations of the plant is that of fletching (feathering) the arrows. For this purpose the tough feathers from the second joint of a grown turkey's wing are used and those on each individual arrow must be identical in shape and size.

Most of the states now have a bow season for hunters and this sport is not confined to males. There are still Dianas of the Chase who enjoy the use of the bow. A recent Ben Pearson publication has as its cover picture a photograph of Mrs. William E. Johnson of Jefferson County, Pa., with her deer, the first killed in the 1951 Pennsylvania Bow Season.

On the day when our photographer visited the Pine Bluff to get pictures Mr. Pearson, himself, was down on the lower Mississippi, hunting wild boar—"aux arcs."



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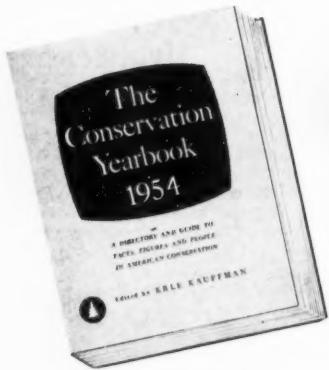
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## Tale of Two Cities

(From page 31)

previously described. Hardtner was full of enthusiasm, the local manager was bitterly scornful.

The operations of this lumber company were characterized by clear cutting and utter disregard of the potentialities of reproduction and second growth, yet it happened that the company secured a remarkably fine second crop of loblolly pine on a large area of cutover land, merely because enough "worthless" trees had been left which produced seed, the fires that consumed the slashings prepared the soil for germination and survival of pine in place of poor hardwoods and brush, and by some miracle, later fires had not occurred to kill the seedlings while still vulnerable.

The local manager was quite pleased to have acquired such a good stand of second growth without effort. By this time the pulpwood market was active and he sold it to the Brown Paper Company at Bastrop to cut clear.

Even this coup did not finish the lumber mill. Natural reproduction of loblolly pine in the surrounding region and on the company's own lands, had been persistent and more second-growth kept coming on to market. The mill continued to find timber until, in the spring of 1953, it fed its last log through the saws and closed down for good. By pursuing the consistent policy of the cynical official, this company had probably made somewhat larger cash profits than had the Hardtners at Urania. But the "time machine" grinds on remorselessly. The town which supported the mill is a relic. The town houses have been knocked down to anyone who would buy them, some going for as low as \$250, which is a boon to those who wish some place to retire and spend their last years beyond the noise of the saws and whistles. The profits accumulated by the policy of scorn may have found useful employment elsewhere in industry. But a comparison of the final results achieved by these two men, the one hopeful and eager to learn, the other cynical and greedy only for liquidation and profit, stands as a convincing demonstration of the difference resulting directly from the purposes and ruling motives of individuals in whose hands have rested the decisions for the future.

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## Reading About Conservation

By ARTHUR B. MEYER

**The New Tree Experts Manual** by Richard R. Fenska (De La Mare Co. 238 pp. \$5) is a valuable book. It is a second edition. The first, published in 1943, was widely used by persons requiring information on the care of shade and ornamental trees. The new edition brings the subject matter up to date with current progress.

So far as I know, this is the only book on the market that makes available so much specific and practical knowledge on the subject, all organized together for ready reference.

For once a publisher's blurb on a book jacket is a reliable indicator of the book's contents and value: ". . . starts at the beginning—the parts of a tree and their functions, and the growth of trees—followed by details on watering, soils, transplanting, pruning, bracing and cabling, tree wound dressing, surgery, etc.

"Informative chapters on correctly diagnosing tree troubles and effective remedies to be applied; all the different types of sprays and how to use them; correct formula for a balanced tree food; complete list of insects attacking shade and ornamental trees . . . a chapter on shade tree laws . . ."

The 23 chapters of this book are indeed a valuable reference for both the professional worker—the tree expert or surgeon, the landscape architect, the city forester—and the

homeowner to whom trees are a valuable property.

### For the Fisherman

With summer in the offing, many a man's thoughts turn to fishing. There is probably no sport whose devotees show such a wide variety of special interests—as to what fish they want to catch, and under what rules and with what equipment they propose to catch him. A millionaire may use nothing but a cane pole and a worm and lie in wait for nothing but a big sunfish. A schoolboy with 50 cents a week allowance may disdain to use other lure than a dry fly of his own manufacture and seem unaware, as far as one can tell, that there is any other fish in the world beside a trout. A strange clan, that of the anglers, and yet one in which almost every boy and man claims his special classification.

For those whose hearts skip a beat on the word "trout" Ray Bergman has a book by the same name. (*Trout*. Alfred A. Knopf. 482 pp. \$7.50.) First published in 1938, *Trout* was reprinted many times. It is now revised and enlarged. The new edition, printed in 1952, in the author's words brings "things up to date." In this process he has added two chapters on spinning, a comparative newcomer in the tackle field that uses a fixed-spool reel. He has also increased the number of excellent color plates of flies, and added spinning lures.

In fact, if you would learn of trout fishing, from lures through landing, and from how to tie a fly through how to try a new strip of white water, you can't go wrong with *Trout*.

Fishing for fun is usually more fun, many of us have found, in a good farm pond than in the littered, crowded, and often unproductive streams that are all that is available to a lot of us. If you have such a pond or lake on your farm or ranch, or if you expect to build one, *Homemade Fishing*, by Vern E. Davidson (The Stackpole Co. 205 pp. \$4.50) will be very informative and helpful. It is an authoritative and in-

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teresting book on how to build and manage fishponds. It is obvious that its author is a man who loves fishing in addition to knowing a lot about fish and how they thrive best.

### For the Hunter

Nash Buckingham has long had a faithful following among the many people who enjoy reading about sports afield with gun and dog. In some of the stories of *Hallowed Years* (The Stackpole Co. 209 pp. \$3.50) he takes his readers back into the days of fabulous hunting in the woods, fields, and along the waterways of the southern Mississippi Valley of his youth. It was a time of plentiful game, few hunters, and standards of conduct afield that were dictated by sportsmanly ethics rather than game laws.

Others of the 13 chapters in the book weave tales about game law enforcement in modern times and relate unusual incidents observed by the author in his long experience as a field trial judge, rating the training and ability of some of the country's top sporting dogs.

Mr. Buckingham's abhorrence of waste and his understanding of the problems facing the future of his beloved sports afield are apparent in the book. Reading *Hallowed Years* will be the next best thing to taking out your own dog and gun.

### Generality with a Focus

**The Web of Life**, (by John H. Storer. The Devin-Adair Co. 144 pp. \$3). We've always had a hunch that the word "ecology"—or the biology dealing with the mutual relations between organisms and their environment—doesn't mean much to most people. That is why I feel we are indebted to Mr. Storer for a new term to say the same thing in much more understandable terms. His term "web of life," which he uses as the title for his book, bundles the whole picture neatly into one package.

The book will catch the reader's attention too, at least any reader that is at all interested in the out-of-doors, in conservation, in almost anything to do with the marvelous physical world in which we exist. This can be predicted because ecology, the web of life, is the web whose threads any of us feel along when we develop an interest in the world beyond the city limits. Furthermore, as the threads of the web become more apparent, it is obvious

that the city, too, with all its man-made things and standards, is hung upon the frail threads of the web.

Life on this planet started, literally, on the rocks and in the sterile, not too salty, water of the virgin seas. From simplicity through marvelous complexity it has progressed from the first stirring specks in the tepid waters to a life form capable of using the gift of intelligence—it has progressed to MAN. The book, according to the author, "is written for anyone interested in the wise use of our soil and water, our forests and wildlife, and for everyone who would learn what has largely been forgotten in our machine age—how all living things fit together into a single pattern." As a reader I will vouch for the purpose of the author and for his very commendable effort toward its attainment.

### In Fact and Fancy

Can a bat see in the daylight? Do pigs really eat "like pigs"? Did you know that, contrary to popular belief, a raccoon does not actually "wash" his food in the common sense of the word, and is really an animal of quite filthy habits? Clifford B. Moore in his book *Ways of Mammals* (Ronald Press. 268 pp. \$3.50) discusses the fact and the fancy of animal actions and the superstitions and myths that have clouded our concept of them through the ages, and at present.

The author is director of the Forest Park Museum at Springfield, Massachusetts. He has included several sections in his book by other authorities on animal behavior. An excellent reference for those who seek authoritative answers to questions about animal actions, and yet good reading for the rest of us who are interested in the facts and folklore about animal life.

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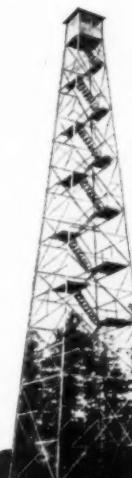
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**Letters**

(From page 3)

many issues in a rapidly growing field and one that is in transition. It is much preferable to encourage people to get out and see for themselves and then let them make up their own minds. I have a great respect for the good common sense of the American public on most of these issues. Keep up the good work.

Robert Carlson  
Miami, Florida

**EDITOR:**

Your March issue was one of the best I have ever received. . . .

H. E. Dike  
Naturalist, Camp Royaneh,  
Boy Scouts of America  
Cazadero, California

**Cypress Knees**

**EDITOR:**

. . . As a result of E. John Long's article on cypress knees in the March issue of AMERICAN FORESTS, we are now receiving more visitors at our museum here. That was a good job.

Thomas Gaskins  
Palmdale, Florida

**Boots and Saddles**

**EDITOR:**

Congratulations on the excellent Trail Riders program for 1954 as presented so dramatically in the March AMERICAN FORESTS. This is the finest program ever for appreciation of forest areas and The American Forestry Association is doing great service to the cause by arranging such attractive trips.

M. M. Goodsill  
Northern Pacific Railway Company  
St. Paul 1, Minnesota

**EDITOR:**

To an old rider who has been on sixteen different Trail Rider trips, the 1954 program looks mighty interesting. . . .

Shirley W. Allen  
School of Natural Resources  
University of Michigan  
Ann Arbor, Michigan

**EDITOR:**

. . . Sure liked the Trail Riders layout in the March issue. Congratulations to Dorothy Dixon who is doing a fine job.

H. M. Elfenbaum, M.D.  
Chicago, Illinois

**EDITOR:**

One of my college friends showed me your spread advertising the 1954 Trail Rides. It was well done. May I have some extra copies? The reason for the request is that a sports friend of mine, Hack Miller, *Deseret News*, Salt Lake City, wants to write an article on this year's expeditions.

Bob Davis  
U Bar Ranch  
Neola, Utah

**EDITOR:**

. . . Congratulations on the Trail Rider presentation. I am glad to hear there is unusual interest in the trips this year. . . .

P. W. Lampertine  
Joplin, Missouri

(Turn to page 63)

## What's NEWS across the nation

IS THERE ANOTHER DUST BOWL IN THE MAKING? Alarming statistical evidence has been presented by the Soil Conservation Service that this may well be the case. Well over a million and a quarter acres have already been eroded by the drought and wind in the Great Plains region. About 11 million acres, mostly in eastern Colorado and western Kansas, have been more or less severely damaged. All told, the loss has been almost as serious as in the great drought of the early 1930's which created the Dust Bowl. The cause? Prolonged poverty of rainfall which must be marked up as a natural catastrophe. But there is more to it than that. Another reason is the fact that farmers continue plowing marginal lands in regions where severe droughts recur in more or less regular cycles. In other words, a great deal of the damage was preventable if more farmers had anticipated the new dust bowl cycle and made proper preparations to hold losses to a minimum.

"START 'EM YOUNG" IS THE MOTTO OF TIMBERMAN DON FARINACCI, of Chardon, Ohio, when it comes to teaching young people to appreciate their woodlands and their products. Mr. Farinacci and other Ohio timbermen recently conducted second-grade pupils of Willoughby's Garfield School on an extensive tour that started with woodland management and ended with the production of useful products in a mill. Forty-two youngsters who went on the excursion now want another trip. They are particularly interested in getting inside a sawmill. They will probably get their trip, according to the Ohio Forestry Association which reports that it was difficult to tell who had a better time on the initial junket—the children or the timbermen.

GARDENERS IN MID-WESTERN STATES WHO LAST SUMMER BATTLED unusually heavy invasions of insects should be prepared for another battle this season. That was the report given out last month by R. B. Neiswander, of The Ohio Agricultural Experiment Station at Wooster. Lack of water was the principal reason for last year's heavy influx of the pests. Precipitation last year was 11.97 inches below normal—the dryest spell in that region on record. There's more rainfall so far this year but the insects will carry over. Many shade trees, particularly maple, elm and pine trees are now infested with borers and bark beetles. Injury caused by the black vine weevil and the strawberry root weevil may be more pronounced than usual in 1954. This is likely to occur because these insects destroy the roots of plants that are already suffering from insufficient rainfall. Suggested treatment? A spray containing aldrin applied to the foliage the last few days of June or early July. If aldrin can't be obtained readily, dieldrin, heptachlor, or chlordane may be used instead. Any one of these poisons may be used at the rate of one pound of the toxicant in 100 gallons of water. The spray should be applied thoroughly, especially on the lower branches.

WHAT TYPES OF OUTDOOR RECREATION DO PEOPLE LIKE BEST? That was the subject of the survey completed recently by the National Recreation Association at the request of the National Park Service. The answer is picnicking. And this answer was general in all the areas surveyed—including the Texas-Oklahoma area and the New York-New England region. In New England, swimming, sightseeing, fishing, visits to historic sites, rowing, games (such as softball and tennis), sailing and hiking all ranked high in popularity. Only two of these—games and hiking—were on the list of high-ranking activities in Texas and Oklahoma communities, how-

(Turn to next page)

NEWS ACROSS THE NATION—(Continued)

ever. Priority in this area, next to picnicking, was given to hunting, horse-back riding and motor boating. In general, the survey reported a strong similarity in recreation interests by individuals and families despite differences in recreation opportunities and geographic location. And everybody apparently likes to load up the family car on Sunday with kids, dog and picnic hamper to head out for a cool grove or a sparkling lake.

GOOD NEWS FROM CALIFORNIA IS THE ANNOUNCEMENT by Governor Goodwin J. Knight that Laurance Rockefeller has donated one million dollars to the Save-the-Redwoods League to assure the preservation of the Calaveras South Grove of Giant Sequoias. The gift will be matched by state funds and donations from organizations and individuals. The future of this impressive 5000-acre grove is now assured thanks to the cooperation of all parties concerned. As agreed upon previously, the grants will make possible the payment of \$2,800,000 to the Pickering Lumber Corporation for purchase of 2155 acres of timber needed to round out the grove. The negotiations were conducted by J. C. Rassenfoss, president of the lumber firm, and DeWitt Nelson, director of California's Department of Natural Resources. The Rockefeller grant was made through the Redwoods League to the California State Park Commission.

A FORESTRY EXPEDITION INTO CANADA'S SPRAWLING NORTH COUNTRY was shaping up last month with Dr. J. E. Potzger, president of the Ecological Society of America, scheduled to head the trek. Dr. Potzger has announced that he is returning to Canada again this summer at the invitation of the Service of Biogeography of the Province of Quebec. Purpose of the studies are to dig out the forest history of the northern watershed of eastern Canada. Last year's survey work was carried on the James Bay region. This season the group will go farther north to the Hudson's Bay area. As before, the expedition will go into the North country by plane. Bogs suitable for camping are sited from the air and the plane sits down in the lakes with which the area abounds.

ONE OF THE GREATEST RELIGIOUS REVIVALS IN THE HISTORY of the United States is being attended by an unprecedented increase in church building, economists report. More than 500 million dollars worth of church construction is predicted this year—much of it calling for wood. This means that big Douglasfirs and other prize lumber species will soon be going into houses of worship all over the nation. Hand in hand with this advance goes a big boost in school building activity to provide for the educational needs of the nation's expanding younger generation. Construction work in churches and schools is expected to offset, to some extent, the levelling off in home building activities.

CRACK TEAMS OF FIRE FIGHTING INDIANS, READY TO FLY at a moment's notice to a threatened area, are being used increasingly to fight forest fires in western national parks, Interior Secretary McKay reports. As forest fire fighters, well-trained Indians can't be topped, the Secretary states. During 1953, 100 Zuni Indians were flown to Yellowstone Park and 100 Taos, Zuni and Santo Domingo Indians were transported to Yosemite to assist the National Park Service in fighting fires in those areas.

THE CAMPAIGN TO PRESERVE HISTORIC METTLER'S WOODS in New Jersey won a reprieve last month when the owner graciously gave the Preservation of Mettler's Woods Committee an extension of time to raise funds to match a lumber company's bid for the wooded area. Whether or not the virgin stand of oak, cherry and hickory goes under the ax will now be determined on July 1. To purchase the land, the committee needs \$75,000. If the campaign is successful, the deed to the property will be given to the Trustees of Rutgers University and maintenance of the property will be handled by that institution.

ENLARGEMENT OF THE JOURNAL OF RANGE MANAGEMENT, bimonthly periodical published by The American Society of Range Management, has been announced by Robert A. Darrow, editor. Equipped with an attractive new format and an increase in page size, the journal will increase its scope to cover range management activities on a world-wide basis and will encourage more letters and articles from individuals in allied conservation activities. Purpose of The American Society of Range Management is "to foster advancement in the science and art of grazing land management."

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## Letters

(From page 60)

## Annual Meeting

## EDITOR:

I plan to attend your Portland show this fall. As regards your March issue, was delighted to see a very familiar scene on pages 20-21—the Columbia River gorge country. That's the Washington shore across the river. I have ten acres about 25 miles down-river and a view that takes in Crown Point (the bluff at right with the buildings) and the City of Portland. One thing not shown in the picture is the dry and hot East wind which swoops down the gorge in summer and which pours freezing weather, and sometimes snow and sleet, through the slot in winter.

Lloyd Thorpe  
 Medical Arts Building  
 Seattle, Washington

## EDITOR:

The March issue of AMERICAN FORESTS is tops. I sure would like to go to the Portland meeting.

Harry William Dengler  
 Maryland Extension Service  
 College Park, Maryland

## EDITOR:

Is there any way we could combine the annual meeting of the AFA described in your March issue with a sightseeing tour in the Rockies and California? To drive that distance does not appeal to us too greatly. Perhaps you are endeavoring to work something out by train or bus. If so, we would appreciate hearing about it.

Thomas M. Kincaid  
 Garden City, Long Island

(Editor's Note—The special train West and back described in the April issue of *American Forests* will have answered Reader Kincaid's inquiry in part. A brochure on this trek is being forwarded to Reader Kincaid.)

## President's Picture

## EDITOR:

It seems to me that the person who snapped the picture and those who published it, as you did in your December issue, were less disrespectful of our President than those who wrote you criticizing your action and in so doing referred to him as "Ike". His name is Dwight D. Eisenhower and he should be referred to as President Eisenhower. While we are on the subject the First Lady of the land is Mrs. Eisenhower and not Mamie, except to her family and close friends. The picture itself was good as it showed our great President as human, good natured and democratic.

F. N. Dull  
 Rutherford, New Jersey

## Dinosaur

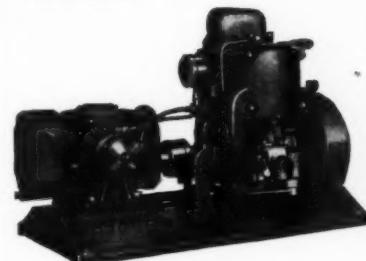
## EDITOR:

Our compliments and thanks for the excellent presentation on the Dinosaur Dams proposition in the February issue of AMERICAN FORESTS.

Rudie E. Black  
 Secretary, Owatonna (Minn.) Chapter  
 Izaak Walton League of America

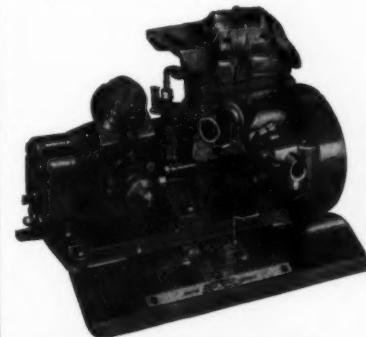
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SEATTLE 1, WASHINGTON

## Feature Photo of the Month

*Photos used on this page will be of unusual rather than esthetic qualities and subject matter will be restricted to scenes, events, objects or persons related to the use, enjoyment or unique aspects of our renewable natural resources. For each picture selected AMERICAN FORESTS will pay \$10.*



Joe L. Hardee photo

No, this isn't the head of some reposing reptile. It's a deformation on the trunk of a live oak growing on the bank of the Suwanee River near Trenton, Florida. The Oak is estimated to be about 350 years old



## **AN UNFORGETTABLE EXPERIENCE!**

Vacation this summer in the wilderness. Join the Trail Riders of the Wilderness on that expedition you have been planning to take in the wild rugged back country of our forests and parks. See for yourself the magnificent beauty of the primitive wilderness as you ride the narrow trails . . . fish in lakes and streams . . . climb the mountain or hike around the lake . . . enjoy the companionship of fellow riders . . . relax beside the evening campfire . . . sleep soundly under a canopy of stars; and return to civilization refreshed and vigorous to tackle the job ahead. That can be your vacation with the Trail Riders . . . **AN UNFORGETTABLE EXPERIENCE.** Here is the schedule for 1954.

### **FLATHEAD—SUN RIVER WILDERNESS, MONTANA**

**July 5 to July 16; July 16 to July 27**  
**\$215 from Missoula, Montana. Parties limited to 25**

### **QUETICO—SUPERIOR WILDERNESS, MINNESOTA Canoe Trip**

**July 10 to July 19**

**\$195 from Ely, Minnesota. Party limited to 15**

### **SHOSHONE—YELLOWSTONE TRAIL, WYOMING**

**July 20 to July 30**

**\$215 from Cody, Wyoming. Party limited to 25**

### **MAROON BELLS—SNOWMASS WILDERNESS, COLORADO**

**July 21 to July 31 and August 3 to August 13**  
**\$215 from Glenwood Springs, Colorado**

**Parties limited to 30**

### **WONDERLAND TRAIL, MT. RAINIER NATIONAL PARK, WASHINGTON**

**August 15 to August 25**  
**Cost \$210. Party limited to 25**

### **HIGH UNTAS WILDERNESS, UTAH**

**July 26 to August 5**  
**\$215 from Vernal, Utah. Party limited to 26**

### **SAWTOOTH WILDERNESS, IDAHO**

**July 27 to August 6 and August 10 to August 20**  
**\$205 from Sun Valley, Idaho. Parties limited to 25**

### **SAN JUAN WILDERNESS, COLORADO**

**August 13 to August 23 and August 28 to September 7**  
**\$215 from Durango, Colorado. Parties limited to 25**

### **GLACIER PEAK—LAKE CHELAN, WASHINGTON**

**August 26 to September 6**  
**\$215 from Wenatchee, Washington. Party limited to 25**

### **SEQUOIA—MT. WHITNEY WILDERNESS, CALIFORNIA**

**August 25 to September 3**  
**\$210 from Lone Pine, California. Party limited to 20**

### **PECOS WILDERNESS, NEW MEXICO**

**September 8 to September 19**  
**\$215 from Santa Fe, New Mexico. Party limited to 25**

*Write or wire for detailed information itineraries, and reservations.*

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You'll find the husky D7 equally at home building roads or firebreaks in steep, rough country. Power, traction and blade capacity are *matched* for big production—notice the load rolling ahead of the blade here. Just as important, the D7 handles easily. "Finger-tip" steering gives the operator complete control of each track for full, smooth power on sharp turns. And visibility is excellent for maneuvering—a time-saver on any job. You can count on this rig to get a lot of work done at low cost with a minimum of down time. You can also count on it to come through in an emergency.

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